

# OREGON OSHA

Batch ID: 428

Employer / Loc: 5701115 010

Seq: 004

Employer Name: POLK COUNTY

File Type / No: INSPECTION 317718091

No. of Pages:

Comments:



01317718091004

**Oregon Department of Consumers and Business Services**  
Oregon Occupational Safety and Health Division (OR-OSHA)



**Inspection Report**

Tue Nov 28, 2017 02:02 PM

| Rpt ID  | CSHO ID | Supervisor ID | Inspection No. | Opt. Insp. No. |
|---------|---------|---------------|----------------|----------------|
| 1054193 | Y6318   | V1883         | 317718091(93)  | Y6318-012-17 ✓ |

|   |                                   |            |               |             |               |
|---|-----------------------------------|------------|---------------|-------------|---------------|
| Establishment Name <sup>9</sup> Polk County |                                   |            |               |             |               |
| Site Address                                | 820 SW Ash St<br>Dallas, OR 97338 | Site Phone | (503)623-9287 | Site FAX    |               |
| Mailing Address                             | 850 Main St<br>Dallas, OR 97338 ✓ | Mail Phone |               | Mail FAX    |               |
| Controlling Corp                            |                                   |            |               | Employer ID | 5701115-010 ✓ |
| Ownership                                   | B. LOCAL GOVERNMENT               |            |               |             |               |
| Legal Entity                                | LOCAL GOVERNMENT ✓                |            |               |             |               |

|                           |          |                 |     |              |          |
|---------------------------|----------|-----------------|-----|--------------|----------|
| Employed in Establishment | 30       | Advance Notice? |     | Category     | Health ✓ |
| Covered by Inspection     | 4        | Union?          |     | Interviewed? | Yes      |
| Controlled by Employer    | 350      | Walkaround?     | Yes |              |          |
| Primary NAICS             | 237990 ✓ | NAICS Inspected |     | 237990 ✓     |          |

|                      |                      |
|----------------------|----------------------|
| Inspection Type      | Referral ✓           |
| Reason No Inspection |                      |
| Scope of Inspection  | Partial Inspection ✓ |
| Classification       | Health Manufacturing |

|                              |  |             |                |               |           |
|------------------------------|--|-------------|----------------|---------------|-----------|
| Anticipatory Warrant Served? |  | Denial Date | Date ReEntered | Date ReDenial | ReEntered |
| Anticipatory Supoena Served? |  |             |                |               |           |

|                    |              |                          |              |
|--------------------|--------------|--------------------------|--------------|
| Entry              |              | First Closing Conference | 10/25/2017 ✓ |
| Opening Conference | 08/22/2017 ✓ | Second Closing Conf.     |              |
| Walkaround         |              | Exit                     |              |
| Days On Site       | 3            | Case Closed              | 10/25/17 ✓   |
|                    |              | Citations Issued         | No           |

| Related Activity |           |           |
|------------------|-----------|-----------|
| Type             | Number    | Satisfied |
| REFERRAL         | 203001781 | H S       |

| Optional Information |    |                |
|----------------------|----|----------------|
| Type                 | ID | Description    |
| S                    | 1  | 01- #1         |
| S                    | 12 | Todd Whittaker |
| S                    | 22 | S-22 PARC      |
| S                    | 6  | FIXED ✓        |

RECEIVED NOV 28 2017

**Oregon Department of Consumers and Business Services**  
Oregon Occupational Safety and Health Division (OR-OSHA)



**Inspection Report**

Tue Nov 28, 2017 02:02 PM

|                   |                         |      |          |
|-------------------|-------------------------|------|----------|
| CSHO Signature    | <i>Garret Cook</i>      | Date | 11-28-17 |
| Manager Signature | <i>Ronald L Hancock</i> | Date | 11/29/17 |

NOV 30 17 09 OSHA 500

# OREGON OSHA INSPECTION SUPPLEMENT



1. IMIS no.: 317718091 2. Opt rpt no.: 16318-012-17 3. Emp. no.: 5701115-010

4. Date: 8/22/17 Time on site: 241 Time out: 430 Travel time: 2

8/23/17 Boaters site

8/24/17 "

5. Total inspection time: \_\_\_\_\_ 6. Legal entity: ☐ Corporation ☐ Partnership ☐ Sole

7. Legal name: Polk County Public Works

8. DBA: \_\_\_\_\_ E-mail: \_\_\_\_\_

9. Phone: (503)623-9287 Cell/fax: \_\_\_\_\_

10. Site address: 820 SW Ash St. Dallas OR 97338

11. Mailing address: 850 Main St Dallas OR 97338

12. Employed in establishment: 30 Covered by inspection: 24 Employed in Oregon: 350 13. Statewide average DART: \_\_\_\_\_

14. OSHA 300 Logs: year \_\_\_\_\_ year \_\_\_\_\_ year \_\_\_\_\_

H I H I H I

Hours worked each year: \_\_\_\_\_

DART rate: \_\_\_\_\_

Formula:  $H + I \times 200,000 \div \text{hours worked} = \text{DART rate}$

15. Type of operation: Public Works 16. SIC: \_\_\_\_\_ 17. NAICS: 237990

18. Management representatives:

| Name                 | Title                      | Opening                             | Insp.                    | Closing                             |
|----------------------|----------------------------|-------------------------------------|--------------------------|-------------------------------------|
| <u>Iodd Whitaker</u> | <u>Dir. Pub Works</u>      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <u>Matt Hawkins</u>  | <u>Adm. Serv. Director</u> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| _____                | _____                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |
| _____                | _____                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            |

19. Employee representatives:

| Name             | Title | Opening                  | Insp.                    | Closing                  |
|------------------|-------|--------------------------|--------------------------|--------------------------|
| <u>See notes</u> | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| _____            | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| _____            | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

20. Photos taken: ☒ Yes ☐ No Video: Yes ☒ No Audio: \_\_\_\_\_ (# of tapes)

21. Workers' comp. insurance carrier: \_\_\_\_\_ Number: \_\_\_\_\_

22. Union name/address: \_\_\_\_\_

23. Does employer lease any employees? Yes ☒ No ☐ Leasing co. name: \_\_\_\_\_

24. Citation copies: \_\_\_\_\_

PARC case # 18-0038

COMPLIANCE OFFICER: Garnet COOKE DATE: 8/22/17

Print name

# Department of Consumer and Business Services

Oregon Occupational Safety and Health Division



## Referral Report

Wed Aug 16, 2017 01:59 PM

|                           |  |                                 |          |                 |             |                  |   |
|---------------------------|--|---------------------------------|----------|-----------------|-------------|------------------|---|
| Reporting ID              | 1054193  | Previous Activity               |          | Referral Number | 203001781   |                  |   |
| Establishment Information | Establishment Name   | Polk County                     |          | Employer ID     | 5701115-010 |                  |   |
|                           | Site Address   | 820 Ash St<br>Dallas,           |          | City Code       |             | County Code      |   |
|                           | Site Phone   | --                              | Site Fax | --              |             |                  |   |
|                           | Mail Address   | 850 Main St<br>Dallas, OR 97338 |          | Mail Phone      |             | Fax              |   |
|                           |  |                                 |          |                 |             |                  |   |
| Industry & Ownership      | Type of Business   | COUNTY GOVERNMENT               |          | Primary NAICS   | 237990      | No. of Employees | 0 |
|                           | Ownership  | Local Government                |          |                 |             |                  |   |
| Source                    | Referred By  | State/Local Government          |          | Date Received   | 08/15/2017  |                  |   |
|                           | Source of Contact (Name, Location, Affiliation, Telephone Number, Email)<br>Tracie Fitzpatrick, PO Box 14360, Salem, OR, 97309, OERS, 5033786377 |                                 |          |                 |             |                  |   |
| Referral Classification   | Health-Serious   |                                 |          |                 |             |                  |   |

### Hazard Description:

Public Works crew was at Brateng Rd/Elkins Road to work on a culvert when they encountered a pink powdered substance covering an area approximately 12 feet by 3 feet. The material was sampled. Laboratory results showed insecticides Chlorpyrifos and Sulfotepp. Four employees sought medical care.

|                       |                         |                  |                            |   |                     |
|-----------------------|-------------------------|------------------|----------------------------|---|---------------------|
| Referral Action       | Send Letter             | Date Letter Sent | Date Response Due          | Response Received<br>(Satisfactory or Not Satisfactory) | Supervisor Assigned |
|                       |                         |                  |                            |   | V1883               |
|                       | Inspection Planned? Yes |                  | If Yes, Priority:          |   | If No, Reason:      |
|                       | Transfer To (Name):     |                  |                            | Transfer Date   | 8/30/2017           |
|                       | Transfer To Category:   |                  |                            |   |                     |
| Strategic Initiatives |                         |                  |                            |   |                     |
| National Emphasis     |                         |                  |                            |   |                     |
| Local Emphasis        |                         |                  |                            |   |                     |
| Optional Information  | Type                    | ID               | Optional Information Value |   |                     |
|                       |                         |                  |                            |   |                     |
| Close Referral        |                         |                  |                            |   |                     |
| Comments              |                         |                  |                            |   |                     |



**Oregon**  
Kate Brown, Governor

**Department of Consumer and Business Services**  
Oregon Occupational Safety & Health Division (OR-OSHA)  
350 Winter Street NE, Room 430  
PO Box 14480  
Salem, OR 97309-0405  
Phone: 503-378-3272  
Toll Free: 1-800-922-2689  
Fax: 503-947-7461  
[www.orosha.org](http://www.orosha.org)

Polk County  
850 Main St  
Dallas, OR 97338

**Inspection Number:** 317718091(93)  
**Optional Report Number:** Y6318-012-17  
**Employer Number:** 5701115-010  
**Inspection Date(s):** 08/22/2017-10/25/2017

The Oregon Occupational Safety and Health Division (OR-OSHA) conducted an inspection of your workplace located at 820 SW Ash St, Dallas, OR 97338. The inspection was to determine if safety or health hazards were present which could cause injury or illness to your employees.

In the course of the inspection, the OR-OSHA representative noted certain conditions which are listed in the following page, which could cause injuries and/or illnesses. Although it is not mandatory to correct them at this time, if the work process, operation, exposure, etc., changes, these conditions could be cited as violations during future inspections. By initiating corrective measures, you could reduce the high cost of human suffering associated with work-related injuries and illnesses.

There may be other hazards present which were not apparent at the time of the inspection. If you need assistance in identifying and/or eliminating health or safety hazards consultative and training services are available to you at no cost through OR-OSHA by calling (503) 378-3272.

Your continuing effort to identify and eliminate work-related hazards is appreciated.

Ronald Haverkost  
OR-OSHA Salem Field Office  
1340 Tandem Ave NE, Suite 160  
PO Box 14513  
Salem, OR 97303

## NOTICE

**Employer Name:** Polk County  
**Employer ID No:** 5701115-010  
**Inspection Number:** 317718091(93)  
**Optional Rpt Num:** Y6318-012-17

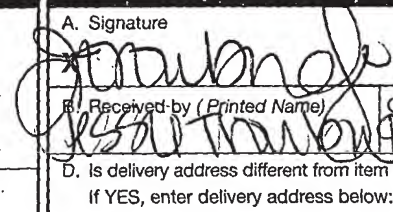
THE FOLLOWING IS A LIST OF CONDITIONS WHICH COULD CAUSE WORK-RELATED INJURIES OR ILLNESSES TO EMPLOYEES. ALTHOUGH NOT MANDATORY AT THIS TIME THE OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION ENCOURAGES YOU TO INITIATE CORRECTIVE MEASURES FOR THESE PROBLEM AREAS IN THE INTEREST OF REDUCING THE HIGH COST AND HUMAN SUFFERING ASSOCIATED WITH WORK-RELATED INJURIES AND ILLNESSES.

Item 01 Employees going home in their personal vehicles in contaminated clothing

Providing coveralls for use in an emergency

7017 0530 0000 3325 3300

|  |                  |
|--|------------------|
| <b>U.S. Postal Service™</b><br><b>CERTIFIED MAIL® RECEIPT</b><br>Domestic Mail Only  |                  |
| For delivery information, visit our website at <a href="http://www.usps.com">www.usps.com</a> ®.   |                  |
| <b>OFFICIAL USE</b>  |                  |
| Certified Mail Fee<br>\$ _____   | Postmark<br>Here |
| Extra Services & Fees (check box, add fee as appropriate)<br><input type="checkbox"/> Return Receipt (hardcopy) \$ _____<br><input type="checkbox"/> Return Receipt (electronic) \$ _____<br><input type="checkbox"/> Certified Mail Restricted Delivery \$ _____<br><input type="checkbox"/> Adult Signature Required \$ _____<br><input type="checkbox"/> Adult Signature Restricted Delivery \$ _____ |                  |
| Postage<br>\$ _____  |                  |
| Total Postage and Fees<br>\$ _____   |                  |
| Sent To<br>_____<br>Street and Apt. No., or PO Box No.<br>_____<br>City, State, ZIP+4®   |                  |
| PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions   |                  |

|   |  |  |  |
|---|--|--|--|
| <b>CERTIFIED MAIL</b><br>PLACE STICKER AT TOP OF THE RETURN ADDRESS   |  | <b>COMPLETE THIS SECTION ON DELIVERY</b>   |  |
| 1. Article Addressed to:<br><div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <b>POLK COUNTY</b><br/> <b>850 MAIN ST</b><br/> <b>DALLAS OR 97338</b> </div> <p>317718091 Haz Ltr</p> |  | A. Signature<br><br><input type="checkbox"/> Agent<br><input type="checkbox"/> Addressee<br>B. Received by (Printed Name) C. Date of Delivery<br>J. S. Thompson 12-17<br>D. Is delivery address different from item 1? <input type="checkbox"/> Yes<br>If YES, enter delivery address below: <input type="checkbox"/> No<br>DEC 17 0530 0000 3325 3300 |  |
| 2. Article (Tra) 7017 0530 0000 3325 3300   |  | 3. Service Type<br><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail<br><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise<br><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.<br>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes  |  |
| PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540  |  |  |  |

## 01 HAZARD (non code related) WORKSHEET

Employer Name: Polk County Public Works

Report No: Y6318-012-17

An inspection occurred at Polk County Public Works to investigate the Pesticide Analytical Response Center Case #18-0038 of employee exposure to pesticides following a culvert cleaning operation. An evaluation of the incident, and subsequent response identified an area of concern.

After the employees were contacted by the pesticide contaminated mist from the clog concealed within the culvert, the employees returned to the shop for further decontamination prior to going home in their personal vehicles. They went home wearing contaminated clothing. It is recommended that you have on hand in your shop area, coveralls that could be used in an event where an employees workwear is contaminated. This prevents the spread of contamination to the employees' personal vehicles to their homes.

While the provision of emergency use coveralls is not required, it is highly recommended. If you have any additional questions, please contact Oregon OSHA's consultative services section.

4/12/18

Polk County Public Works  
Y6318-012-17  
PARC Case # 18-0038

A partial health inspection was conducted at Polk County Public Works by SrAgHCO Garnet Cooke as a result of a PARC referral. An anticipatory warrant was obtained, as per the Polk County policy to require one, and was served to both Todd Whittaker, Director and Matt Hawkins, Administrative Services Director. The opening conference was then conducted with both as per the opening conference checklist.

The Public Works Department has 30 staff with 350 employees total within the county. There were 4 staff affected by the pesticide exposure.

OERS received the following on August 15, 2017:

Polk County Public Works (PCPW) reported the discovery of a pesticide spill. PCPW crews were at the listed location (Brateng Rd near Elkins Road in Monmouth) to work on a culvert and were exposed to an apparent dumping of pesticides. It's unknown exactly how much was dumped, or when it occurred, but it covered an area approximately 12' by 3'. The material was sampled and sent to a lab in Tigard and the substances were chlorpyrifos and sulfotep. Since the discovery at least 3 employees needed medical attention after being exposed to the material. PCPW's ops plan is to refer the scene to the local fire dept. Polk 1 FD, Neil Olson. The exact location is the 1300 ft west of the east end intersection of Brateng Rd and Elkins Rd. It is an inlet to a culvert that leads to a field tile about 1 mile from flowing water. Unknown if waterways are threatened. No cleanup measures have been taken. Due to the remote location and low usage, the FD did not cone, or tape off the area. Caller advised to report this to the NRC also.

Oregon OSHA received the referral from PARC on August 16<sup>th</sup>. The warrant process began on the 16<sup>th</sup> and was signed by the Judge on the 22<sup>nd</sup> of August. The inspection was opened that day. Site visits to Brateng Road occurred on August 22<sup>nd</sup>, 23<sup>rd</sup> with PARC coordinator Ted Bunch, and on August 24<sup>th</sup> with Geoffrey Brown, State On-Scene Coordinator, Emergency Response Program. The investigation revealed a slightly varied description.

On August 7<sup>th</sup>, a crew of two were working on cleaning culverts using a "jet rod." This device has a cone that is propelled forward by water shooting in the opposite direction. When it was deployed in the culvert it met an obstruction. The employee on the controls pulled it back, returned to the controls and restarted the device. As it shot forward it sprayed out a pink colored, chemical smelling cloud that hit the bank, and was swirled toward the controller. He received substantial frontal contact. The second employee directly above the culvert received minor contact. They extracted the jet rod and pulled forward up the road where they washed with water and called in to their supervisor to report the incident and returned to the yard. There they washed their face and hands with soap and water, did not change clothes and went home. The employee with the most contact threw away his clothes, shoes and took 3 showers. He experienced almost immediate symptoms that increased in severity. The second employee had minor symptoms. PCPW contacted the sheriff who notified Polk County Fire District 1, who, due to the remote location opted not to restrict the area. The following day, the Director and

supervisor of the two employees went to the site and tried to look into the culvert to see what was in there and both immediately experienced symptoms. Upon returning to the yard all four went to the Emergent Medical Care office in Dallas. There they were informed there was nothing they could do for them because they had no idea what to test for, nor what body fluid to take. (2)

Northwest Fire Fighters Environmental, Emergency Spill Response were dispatched to collect soil samples at the site on August 8<sup>th</sup> and submitted them for analysis on August 9<sup>th</sup>. On August 15<sup>th</sup>, the results were obtained and showed two toxic organophosphate insecticides and high levels.

Chlorpyrifos levels at 207,000 ppm

Sulfotepp levels at 678 ppm

Todd Whittaker then contacted the Oregon Emergency Response System at 1514 hours, and the National Response Center at 1830 hours.

The employee with the greatest exposure sought additional medical care at the Corvallis Occupational Clinic with biological samples taken for organophosphate exposure.

At 0800 on August 16<sup>th</sup>, DEQ issued the cleanup contract with work commencing later that day of scraping surface soils around the culvert. No containers were found. Site visits on August 22<sup>nd</sup> and 23<sup>rd</sup> still revealed heavy strong odors with subsequent notification made to Geoffrey Brown, at DEQ. A second cleanup took place on August 24<sup>th</sup> which consisted of the culvert being jet rodded with water at either end being collected. The soil was retested at four points. SS-1 at 11 o'clock (NW of the culvert), SS-2 slightly to the right of 12 o'clock (North of the culvert), SS-3 at 6 o'clock (S of the culvert) and SS-4 at the top where greenish material had been observed along a separation where the culvert sections had separated. This was termed a "rat hole." These results revealed:

SS-1: 4,4'DDE at 28.9 µg/kg

Chlorpyrifos at 101,000 µg/kg

SS-2: Chlorpyrifos at 370 µg/kg

SS-3: 4, 4'DDE at 9.9 µg/kg

Chlorpyrifos at 17,600 µg/kg

SS-4: 2,4 D at 320,000 µg/kg

DEQ was planning no further action after a cost of approximately \$10,000 with no responsible party identified. The farm immediately south of the location was notified.

The closing conference was conducted by phone with Todd Whittaker on October 25<sup>th</sup>, 2017 as per the closing conference checklist. A hazard letter issued in regards to providing the availability of coveralls for use in an emergency so affected employees would not return home in their personal vehicles in contaminated clothing.



# OREGON OSHA OPENING/CLOSING CONFERENCE



EMPLOYER NAME

Polk County Public Works

Opt Rpt No.

46318-012-17

OPENING CONFERENCE

Full

☒

\*Abbreviated

☐

Date full opening conducted

8/22/17

- ☒ 1. \*Introduction/credentials
- ☒ 2. \*Employer rep Todd & Matt Employee rep \_\_\_\_\_
- ☒ 3. \*Explain purpose, nature, and scope of inspection (include expansion of serious)
- ☒ 4. Loc under Oregon OSHA consultation (7 days prior to 60/30 days after)? Yes \_\_\_\_\_ No ☒
- ☒ 5. Loc NAICS code? \_\_\_\_\_ Scheduled NAICS code \_\_\_\_\_
- ☒ 6. Loc MOD rate  $\leq 0.50$  or less (must have written proof): Yes/rate \_\_\_\_\_ OHSAS? \_\_\_\_\_
- ☒ 7. Sampling \_\_\_\_\_ Photos ☒ Video \_\_\_\_\_ Audio \_\_\_\_\_
- ☒ 8. Trade secrets? \_\_\_\_\_
- ☒ 9. Employee interviews (in private) discrimination prohibited \_\_\_\_\_
- ☒ 10. Violations OTS/S/D Reductions (size, history, good faith, immediate) \_\_\_\_\_
- ☒ 11. Closing conference at end of inspection \_\_\_\_\_
- ☒ 12. Records review (min. OSHA 300/300A, 801s) \_\_\_\_\_
- ☒ 13. PPE required by employer for inspection \_\_\_\_\_

\* Indicates minimum requirement for an abbreviated opening

CLOSING CONFERENCE

On site

☐

Via phone

☒

Letter

☐

Closing date

10/25/17

Employer rep.

Todd Whitaker

Employee rep.

- ☒ 1. Employer right to present pertinent information re: violations (included in the report) \_\_\_\_\_
- ☒ 2. Describe alleged violations (identify probability and severity) \_\_\_\_\_
- ☒ 3. Penalties assessed \_\_\_\_\_ Repeat violations (2X, 5X, 10X, 15X, 20X) \_\_\_\_\_
- ☒ 4. Abatement time for each violation (immediate; 7, 14, 21, or 28 days) \_\_\_\_\_
- ☒ 5. Hazard letters Controlled
- ☒ 6. Citations issued from Salem via certified mail. Abatement time starts upon receipt \_\_\_\_\_
- ☒ 7. Letter of Corrective Action. Due date. Follow-up inspection \_\_\_\_\_
- ☒ 8. Failure to abate violations may result in daily penalties \_\_\_\_\_
- ☒ 9. Employer must post citation (3 days or until abated) where employees can view it \_\_\_\_\_
- ☒ 10. Employer can appeal violation/penalty/abatement time. Employees can appeal abatement time \_\_\_\_\_
- ☒ 11. Citation becomes final order if not appealed within 30 days of receipt \_\_\_\_\_
- ☒ 12. Appeal in writing (appealed items stayed if OTS; serious must be abated) \_\_\_\_\_
- ☒ 13. Informal conference at field office or by phone. Formal hearing \_\_\_\_\_
- ☒ 14. Abatement assistance is available through CO \_\_\_\_\_
- ☒ 15. Abatement extension available \_\_\_\_\_
- ☒ 16. Referrals? \_\_\_\_\_ To whom? \_\_\_\_\_
- ☒ 17. Variance \_\_\_\_\_
- ☒ 18. Employees protected from discrimination (BOLI) \_\_\_\_\_
- ☒ 19. Oregon OSHA consultation available and their workers' comp. carrier required to provide \_\_\_\_\_
- ☒ 20. Work-related in-patient hospitalization, loss of an eye, and amputation or avulsion that results in bone or cartilage loss requires notification within 24 hours \$2500
- ☒ 21. Work-related fatality or catastrophe requires notification within 8 hours \_\_\_\_\_

Certified to be a true and correct  
copy of the original on file.  
Dated AUG 22 2017  
Trial Court Administrator

By 



Polk County Public Works  
Y6318-012-17

FILED  
POLK COUNTY OREGON

17 AUG 22 PM 2:24

TRIAL COURT ADMINISTRATOR  
ENTERED BY \_\_\_\_\_

IN THE CIRCUIT COURT OF THE STATE OF OREGON

FOR THE COUNTY OF POLK

STATE OF OREGON, ex rel  
OREGON OCCUPATIONAL SAFETY &  
HEALTH DIVISION of the DEPARTMENT  
OF CONSUMER & BUSINESS SERVICES,

Petitioner,

v.

POLK COUNTY PUBLIC WORKS,

Employer.

Case No. 17AD02859

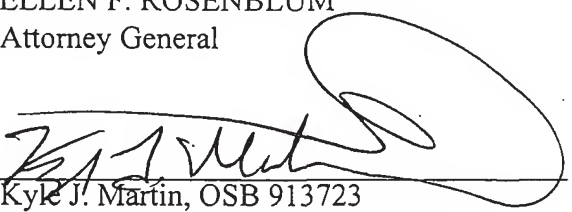
MOTION AND APPLICATION FOR  
INSPECTION WARRANT UNDER  
ORS CHAPTER 654

The Oregon Occupational Safety and Health Division (OR-OSHA) of the Department of Consumer and Business Services, by and through its attorney, Kyle J. Martin, Senior Assistant Attorney General, hereby moves and makes application to the court for the issuance of an inspection warrant, pursuant to ORS 654.067(3) and 654.202 to 654.216. This motion is supported by the Affidavit of Garnet Cooke, OR-OSHA Compliance Officer.

DATED this 16<sup>th</sup> day of August 2017.

Respectfully submitted,

ELLEN F. ROSENBLUM  
Attorney General

  
Kyle J. Martin, OSB 913723  
Senior Assistant Attorney General  
Department of Justice  
1162 Court Street NE  
Salem, OR 97301-4096  
Email: Kyle.j.martin@state.or.us

Certified to be a true and correct  
copy of the original on file.  
Dated AUG 22 2017  
Trial Court Administrator

By



Polk County Public Works  
Y6318-012-17

FILED  
POLK COUNTY OREGON

17 AUG 22 PM 2:24

TRIAL COURT ADMINISTRATOR

ENTERED BY

**In the Circuit Court of the State of Oregon  
for the County of Polk**

In the Matter of the Inspection of:

Polk County Public Works

Case No.

17AD02859

**AFFIDAVIT OF GARNET COOKE**

The Oregon Occupational Safety and Health Division (OR-OSHA) of the Department of Consumer and Business Services for the State of Oregon makes application for an administrative inspection warrant pursuant to ORS 654.202 through 654.216, to permit inspection of the workplace of Polk County Public Works, at 820 Ash St, Dallas, OR 97338, as well as the insecticide spill site of 1300 ft. west of the east end intersection of Branteng Rd and Elkins Rd, Dallas, OR.

I, Garnet Cooke, first being duly sworn, state as follows:

Per ORS 654.003, the purpose of the Oregon Safe Employment Act (OSEAct) is to assure safe and healthful working conditions for every working man and woman in Oregon. The Director of the Department of Consumer and Business Services is charged with the administration of the OSEAct pursuant to ORS 654.025. OR-OSHA is authorized by ORS 654.035(4) to establish a program of inspection for places of employment for the purpose of determining whether an employer is furnishing a safe and healthful place of employment in accordance with the OSEAct, its standards, rules, and regulations.

OR-OSHA is responsible for developing and implementing the OR-OSHA inspection program. Per OAR 437-001-0055, inspections are based on reports of imminent danger,

(b)

1 fatalities, catastrophes or accidents, complaints, referrals, programmed inspections and  
2 follow-up inspections.

3 I am a health compliance officer for OR-OSHA. In my capacity as a health compliance  
4 officer, I am required to make inspections of places of employment throughout the state of  
5 Oregon to verify compliance with safety and health regulations. I am authorized by ORS  
6 654.025, 654.062, and 654.067 to enter, inspect, and investigate in a reasonable manner  
7 any establishment or workplace where an employee is performing work. When consent for  
8 an inspection cannot be obtained from an employer, OR-OSHA is authorized to obtain an  
9 inspection warrant for the purposes of entry and inspection pursuant to ORS 654.202 to  
10 654.216.

11 Under ORS 654.206(1), an inspection warrant is issued upon a showing of cause.  
12 Under ORS 654.206(2), cause exists if there is probable cause to believe that a workplace  
13 condition does not conform with a safety or health statute, ordinance, regulation, rule,  
14 standard, or order. Probable cause can be established through the referral of a safety or  
15 health violation in the workplace. OAR 437-001-0055(4) states an inspection may be  
16 initiated if safety or health violations are observed by an Oregon OSHA employee or other  
17 federal, state, or local governmental representative and the nature of the information  
18 received indicates the probable validity of the referral.

19 On August 15, 2017, OR-OSHA received a referral about a hazardous condition  
20 located at 1300 ft west of the east end intersection of Branteng Rd and Elkins Rd, Dallas,  
21 OR from a source that appears to be reliable because of a report received by the National  
22 Response Center stating that employees from the Polk County Public Works office reported

7

1 respiratory ailments due to an insecticide spill and were being tested and observed at a  
2 medical facility. The referral alleges the following:

3 Unknown pink powder substances were found along a road during maintenance work.  
4 The substances were later identified as Chlorpyrifos (insecticide) and Sulfotep  
5 (insecticide). Individuals reported respiratory ailments due to exposure to these  
6 substances.

7 On August 15, 2017, this inspection was assigned to me. I will inspect the spill site  
8 noted above as well as the main office of Polk County Public Works, located at 820 Ash  
9 Street, Dallas, Oregon, because the exposed employees are based out of this location and  
10 records are maintained in this location.

11 Per ORS 654.206, an inspection warrant will be issued if entry into the workplace has  
12 been sought and refused, or the facts or circumstances reasonably indicate the inspection  
13 will be frustrated if entry is sought without a warrant. Representatives of Polk County  
14 informed OR-OSHA at the last OR-OSHA inspection in 2016 that future inspections would  
15 require a warrant, which indicates this inspection will likely be frustrated if entry is sought  
16 without a warrant.

17 Due to the size and location of Polk County Public Works, a maximum 10 days will be  
18 required to complete the inspection.

19 Therefore, I, Garnet Cooke, a representative of OR-OSHA, request the court issue an  
20 inspection warrant pursuant to ORS 654.202 to inspect the workplace of Polk County Public  
21 Works located at 820 Ash St, Dallas, OR 97338, and the spill site located at 1300 ft. west of  
22 the east end intersection of Branteng Rd and Elkins Rd, Dalls, OR, to determine if this

8

1 employer has complied with the Oregon Safe Employment Act, its standards, rules and  
2 regulations.

3 I have read this affidavit and swear the contents are true to the best of my knowledge,  
4 information, and belief.

5  
6 Garnet Cooke  
7 Garnet Cooke, Health Compliance Officer  
8

9  
10 8-22-2017  
11 Date

12 Subscribed and sworn to before me

13 on August 22, 2017



15 Heather N Chase

16 Notary Public

17 My commission expires on:

18 march 19 2018

(9)

In the Circuit Court of the State of Oregon  
for the County of Polk

In the Matter of the Inspection of:

Polk County Public Works

Case No. 17AD 02 859

**INSPECTION WARRANT**

To:

Garnet Cooke, Compliance Officer  
of the Oregon Occupational Safety and Health Division )  
of the Department of Consumer and Business Services )

An application has been made by the Oregon Occupational Safety & Health Division (OR-OSHA) of the Department of Consumer & Business Services of the State of Oregon, for an inspection warrant pursuant to ORS 654.202 for the purpose of conducting an inspection authorized by OAR 437-001-0055. The applicant, Garnet Cooke, provided under oath or affirmation a signed affidavit, which is attached and includes factual information and the legal basis for issuance of an inspection warrant. The Court has verified the accuracy of the affidavit by examining Garnet Cooke under oath or affirmation, and has determined that cause exists to inspect the workplace described as the work area(s), site(s), premises, building(s), and/or facilities of:

(10)

1 Polk County Public Works

2 1300 ft west of the east end intersection of Branteng Rd and Elkins Rd, Dallas, Oregon, and  
3 the main office located at 820 SW Ash St, Dallas, OR 97338.

4  
5 based upon a referral received by OR-OSHA that supports a belief that a condition of non-

6 conformity with safety or health standards exists at this place of employment. The rules

7 established by Oregon Occupational Safety and Health Division in OAR Chapter 437,

8 Division 1, are being applied on a valid and neutral basis to this particular workplace. The

9 facts or circumstances reasonably indicate the inspection will be frustrated if entry is sought

10 without a warrant.

11  
12 It is hereby ordered that Garnet Cooke and/or other designated OR-OSHA representatives

13 enter and inspect the work site located at 1300 ft west of the east end intersection of

14 Branteng Rd and Elkins Rd, and the main office located at 820 SW Ash St, Dallas, OR, on

15 any day of the week between the hours of 8:00 am and 6:00 pm, and inspect and

16 investigate in a reasonable manner and to a reasonable extent. Per OAR 437-001-0090,

17 this includes, but is not limited to, inspecting all required records, conditions, structures,

18 machines, materials and methods for compliance with statutes, regulations, rules, standards

19 and orders; use of photography, videotape, audiotape, or other devices to record conditions;

20 privately interviewing employees about safety and health conditions; use of interpreters;

21 taking environmental and personal exposure samples; or other activities which may

22 determine whether the employer is furnishing to its employees a safe and healthful work

23 environment.

(10)

1 This inspection will be conducted without unreasonably disrupting operations at this work  
2 site. Any information obtained or observed which contains or might reveal a trade secret  
3 referred to in section 1905, title 18, United States Code, shall be considered confidential per  
4 ORS 654.120(3).

5  
6 Representatives of the Oregon Occupational Safety & Health Division are hereby  
7 commanded to make an inspection for a maximum of 10 day(s).

8  
9 Before entry, Garnet Cooke, will present her credentials to an agent of the employer,  
10 explain the purpose of the inspection and will present the warrant. A peace officer will assist,  
11 if requested, in the execution of this inspection warrant. This inspection warrant must be  
12 executed and returned to this court within ten (10) days from its date of issuance, unless this  
13 court before the expiration of such time extends the time for five (5) days. After the  
14 expiration of the time prescribed, the warrant, unless executed, is void.

15  
16  
17 DATED this 27 day of August, 2017

18  
19  
20  
21  
22  
  
JUDGE

(12)

IN THE CIRCUIT COURT OF THE STATE OF OREGON  
FOR THE COUNTY OF Polk  
CASE NO. 17AD02859

In the Matter of the Inspection of:

Polk County Public Works  
820 Ash St  
Dallas, OR 97338

**RETURN OF INSPECTION WARRANT**

STATE OF OREGON

County of Polk

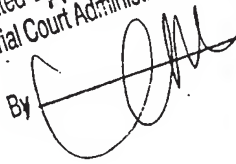
I, Garnet Cooke, Safety/Health Compliance Officer for the Oregon Occupational Safety and Health Division of the Department of Consumer and Business Services for the State of Oregon, certify that I received a copy of the above Inspection Warrant on the 16th day of August, 2017. I served the Inspection Warrant on the 22nd day of August, on Polk County Public Works located at 820 Ash St, Dallas, OR 97338

DATED this 29th day of August, 2017.



Garnet Cooke  
Safety/Health Compliance Officer

Certified to be a true and correct  
copy of the original on file.  
Dated AUG 22 2017  
Trial Court Administrator

By 



Polk County Public Works  
Y6318-012-17

FILED 13  
POLK COUNTY OREGON

17 AUG 22 PM 2:24  
TRIAL COURT ADMINISTRATOR  
ENTERED BY \_\_\_\_\_

IN THE CIRCUIT COURT OF THE STATE OF OREGON  
FOR THE COUNTY OF POLK

STATE OF OREGON, ex rel  
OREGON OCCUPATIONAL SAFETY &  
HEALTH DIVISION of the DEPARTMENT  
OF CONSUMER & BUSINESS SERVICES,

Petitioner,

v.

POLK COUNTY PUBLIC WORKS,

Employer.

Case No. 17AD02859

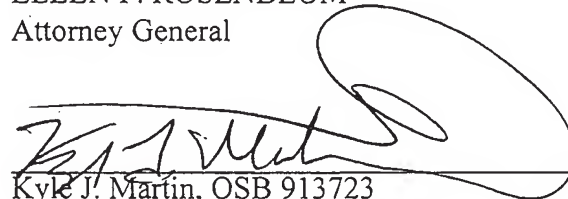
MOTION AND APPLICATION FOR  
INSPECTION WARRANT UNDER  
ORS CHAPTER 654

The Oregon Occupational Safety and Health Division (OR-OSHA) of the Department of Consumer and Business Services, by and through its attorney, Kyle J. Martin, Senior Assistant Attorney General, hereby moves and makes application to the court for the issuance of an inspection warrant, pursuant to ORS 654.067(3) and 654.202 to 654.216. This motion is supported by the Affidavit of Garnet Cooke, OR-OSHA Compliance Officer.

DATED this 16<sup>th</sup> day of August 2017.

Respectfully submitted,

ELLEN F. ROSENBLUM  
Attorney General



Kyle J. Martin, OSB 913723  
Senior Assistant Attorney General  
Department of Justice  
1162 Court Street NE  
Salem, OR 97301-4096  
Email: Kyle.j.martin@state.or.us



In the Circuit Court of the State of Oregon  
for the County of Polk

In the Matter of the Inspection of:

Polk County Public Works

Case No. 17AD 02 859

**INSPECTION WARRANT**

To:

Garnet Cooke, Compliance Officer  
of the Oregon Occupational Safety and Health Division )  
of the Department of Consumer and Business Services )

An application has been made by the Oregon Occupational Safety & Health Division (OR-OSHA) of the Department of Consumer & Business Services of the State of Oregon, for an inspection warrant pursuant to ORS 654.202 for the purpose of conducting an inspection authorized by OAR 437-001-0055. The applicant, Garnet Cooke, provided under oath or affirmation a signed affidavit, which is attached and includes factual information and the legal basis for issuance of an inspection warrant. The Court has verified the accuracy of the affidavit by examining Garnet Cooke under oath or affirmation, and has determined that cause exists to inspect the workplace described as the work area(s), site(s), premises, building(s), and/or facilities of:



1 Polk County Public Works

2 1300 ft west of the east end intersection of Branteng Rd and Elkins Rd, Dallas, Oregon, and  
3 the main office located at 820 SW Ash St, Dallas, OR 97338.

4  
5 based upon a referral received by OR-OSHA that supports a belief that a condition of non-

6 conformity with safety or health standards exists at this place of employment. The rules

7 established by Oregon Occupational Safety and Health Division in OAR Chapter 437,

8 Division 1, are being applied on a valid and neutral basis to this particular workplace. The

9 facts or circumstances reasonably indicate the inspection will be frustrated if entry is sought

10 without a warrant.

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12 It is hereby ordered that Garnet Cooke and/or other designated OR-OSHA representatives

13 enter and inspect the work site located at 1300 ft west of the east end intersection of

14 Branteng Rd and Elkins Rd, and the main office located at 820 SW Ash St, Dallas, OR, on

15 any day of the week between the hours of 8:00 am and 6:00 pm, and inspect and

16 investigate in a reasonable manner and to a reasonable extent. Per OAR 437-001-0090,

17 this includes, but is not limited to, inspecting all required records, conditions, structures,

18 machines, materials and methods for compliance with statutes, regulations, rules, standards

19 and orders; use of photography, videotape, audiotape, or other devices to record conditions;

20 privately interviewing employees about safety and health conditions; use of interpreters;

21 taking environmental and personal exposure samples; or other activities which may

22 determine whether the employer is furnishing to its employees a safe and healthful work

23 environment.

(16)

1 This inspection will be conducted without unreasonably disrupting operations at this work  
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11 if requested, in the execution of this inspection warrant. This inspection warrant must be  
12 executed and returned to this court within ten (10) days from its date of issuance, unless this  
13 court before the expiration of such time extends the time for five (5) days. After the  
14 expiration of the time prescribed, the warrant, unless executed, is void.

15  
16  
17 DATED this 27 day of August, 2017

18  
19  
20  
21  
22  
  
JUDGE

Certified to be a true and correct  
copy of the original on file.  
Dated AUG 22 2017  
Trial Court Administrator  
By [Signature]



Polk County Public Works  
Y6318-012-17

FILED  
POLK COUNTY OREGON

17 AUG 22 PM 2:24

TRIAL COURT ADMINISTRATOR

ENTERED BY \_\_\_\_\_

**In the Circuit Court of the State of Oregon  
for the County of Polk**

In the Matter of the Inspection of:

Polk County Public Works

Case No. 17AD02859

**AFFIDAVIT OF GARNET COOKE**

The Oregon Occupational Safety and Health Division (OR-OSHA) of the Department of Consumer and Business Services for the State of Oregon makes application for an administrative inspection warrant pursuant to ORS 654.202 through 654.216, to permit inspection of the workplace of Polk County Public Works, at 820 Ash St, Dallas, OR 97338, as well as the insecticide spill site of 1300 ft. west of the east end intersection of Branteng Rd and Elkins Rd, Dallas, OR.

I, Garnet Cooke, first being duly sworn, state as follows:

Per ORS 654.003, the purpose of the Oregon Safe Employment Act (OSEAct) is to assure safe and healthful working conditions for every working man and woman in Oregon. The Director of the Department of Consumer and Business Services is charged with the administration of the OSEAct pursuant to ORS 654.025. OR-OSHA is authorized by ORS 654.035(4) to establish a program of inspection for places of employment for the purpose of determining whether an employer is furnishing a safe and healthful place of employment in accordance with the OSEAct, its standards, rules, and regulations.

OR-OSHA is responsible for developing and implementing the OR-OSHA inspection program. Per OAR 437-001-0055, inspections are based on reports of imminent danger,

(18)

1 fatalities, catastrophes or accidents, complaints, referrals, programmed inspections and  
2 follow-up inspections.

3 I am a health compliance officer for OR-OSHA. In my capacity as a health compliance  
4 officer, I am required to make inspections of places of employment throughout the state of  
5 Oregon to verify compliance with safety and health regulations. I am authorized by ORS  
6 654.025, 654.062, and 654.067 to enter, inspect, and investigate in a reasonable manner  
7 any establishment or workplace where an employee is performing work. When consent for  
8 an inspection cannot be obtained from an employer, OR-OSHA is authorized to obtain an  
9 inspection warrant for the purposes of entry and inspection pursuant to ORS 654.202 to  
10 654.216.

11 Under ORS 654.206(1), an inspection warrant is issued upon a showing of cause.  
12 Under ORS 654.206(2), cause exists if there is probable cause to believe that a workplace  
13 condition does not conform with a safety or health statute, ordinance, regulation, rule,  
14 standard, or order. Probable cause can be established through the referral of a safety or  
15 health violation in the workplace. OAR 437-001-0055(4) states an inspection may be  
16 initiated if safety or health violations are observed by an Oregon OSHA employee or other  
17 federal, state, or local governmental representative and the nature of the information  
18 received indicates the probable validity of the referral.

19 On August 15, 2017, OR-OSHA received a referral about a hazardous condition  
20 located at 1300 ft west of the east end intersection of Branteng Rd and Elkins Rd, Dallas,  
21 OR from a source that appears to be reliable because of a report received by the National  
22 Response Center stating that employees from the Polk County Public Works office reported

19

1 respiratory ailments due to an insecticide spill and were being tested and observed at a  
2 medical facility. The referral alleges the following:

3 Unknown pink powder substances were found along a road during maintenance work.

4 The substances were later identified as Chlorpyrifos (insecticide) and Sulfotep  
5 (insecticide). Individuals reported respiratory ailments due to exposure to these  
6 substances.

7 On August 15, 2017, this inspection was assigned to me. I will inspect the spill site  
8 noted above as well as the main office of Polk County Public Works, located at 820 Ash  
9 Street, Dallas, Oregon, because the exposed employees are based out of this location and  
10 records are maintained in this location.

11 Per ORS 654.206, an inspection warrant will be issued if entry into the workplace has  
12 been sought and refused, or the facts or circumstances reasonably indicate the inspection  
13 will be frustrated if entry is sought without a warrant. Representatives of Polk County  
14 informed OR-OSHA at the last OR-OSHA inspection in 2016 that future inspections would  
15 require a warrant, which indicates this inspection will likely be frustrated if entry is sought  
16 without a warrant.

17 Due to the size and location of Polk County Public Works, a maximum 10 days will be  
18 required to complete the inspection.

19 Therefore, I, Garnet Cooke, a representative of OR-OSHA, request the court issue an  
20 inspection warrant pursuant to ORS 654.202 to inspect the workplace of Polk County Public  
21 Works located at 820 Ash St, Dallas, OR 97338, and the spill site located at 1300 ft. west of  
22 the east end intersection of Branteng Rd and Elkins Rd, Dalls, OR, to determine if this

(20)

1 employer has complied with the Oregon Safe Employment Act, its standards, rules and  
2 regulations.

3 I have read this affidavit and swear the contents are true to the best of my knowledge,  
4 information, and belief.

5 Garnet Cooke  
6  
7 Garnet Cooke, Health Compliance Officer  
8

9 8-22-2017  
10  
11 Date

12 Subscribed and sworn to before me

13 on August 22, 2017  
14



15 Heather N Chase

16 Notary Public

17 My commission expires on:

18 March 19 2018

203001781

Polk County Public Works  
Y6318-012-17

**COOKE Garnet R \* DCBS**

---

**From:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>  
**Sent:** Wednesday, August 16, 2017 10:16 AM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** Fwd: NRC#1187340

(21)

Begin forwarded message:

**From:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>  
**Subject:** Fwd: NRC#1187340  
**Date:** August 16, 2017 at 8:25:42 AM PDT  
**To:** Parc <[parc@oda.state.or.us](mailto:parc@oda.state.or.us)>

Begin forwarded message:

**From:** VAN-PATTEN Kimberlee <[kimberlee.van-patten@state.or.us](mailto:kimberlee.van-patten@state.or.us)>  
**Subject:** FW: NRC#1187340  
**Date:** August 15, 2017 at 4:29:41 PM PDT  
**To:** "'[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)'" <[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)>, BUNCH Theodore R <[Theodore.R.Bunch@state.or.us](mailto:Theodore.R.Bunch@state.or.us)>

Here is the corresponding NRC report.

Kimberlee Van Patten  
Duty Officer ~ Emergency Response Program  
Oregon Dept. of Environmental Quality  
503-229-5256 office  
971-563-8034 cell  
700 NE Multnomah St., Suite #1400  
Portland, OR 97232

-----Original Message-----

**From:** [HQS-PF-flidr-NRC@uscg.mil](mailto:HQS-PF-flidr-NRC@uscg.mil) [<mailto:HQS-PF-flidr-NRC@uscg.mil>]  
**Sent:** Tuesday, August 15, 2017 3:47 PM  
**To:** DO Spills \* DEQ  
**Subject:** NRC#1187340

NATIONAL RESPONSE CENTER 1-800-424-8802  
\*\*\*GOVERNMENT USE ONLY\*\*\*GOVERNMENT USE ONLY\*\*\*

22

Incident Report # 1187340

#### INCIDENT DESCRIPTION

\*Report taken by: DO ALEXANDER DOMINGO ARANA at 18:30 on 15-AUG-17

Incident Type: FIXED

Incident Cause: DUMPING

Affected Area:

Incident was discovered on 07-AUG-17 at 15:10 local incident time.

Affected Medium: LAND COUNTY DITCH

---

#### REPORTING PARTY

Name: TODD WHITAKER

Organization: POLK COUNTY PUBLIC WORKS

Address: 820 SW ASH ST

DALLAS, OR 97338

Email Address: [whitaker.todd@co.polk.or.us](mailto:whitaker.todd@co.polk.or.us)

PRIMARY Phone: (503)6239287

Type of Organization: LOCAL GOVERNMENT

---

#### SUSPECTED RESPONSIBLE PARTY

Name: UNKNOWN

Type of Organization: UNKNOWN

---

#### INCIDENT LOCATION

10630 ELKINS RD County: POLK

City: DALLAS State: OR

ON BRATENG RD; APPX 1300 FT W FROM THE INTERSECTION WITH ELKINS RD

---

#### RELEASED MATERIAL(S)

CHRIS Code: NCC Official Material Name: NO CHRIS CODE

Also Known As: CHLORPYRIFOS (INSECTICIDE)

Qty Released: 207000 PART(S) PER MILLION

CHRIS Code: NCC Official Material Name: NO CHRIS CODE

Also Known As: SULFOTEP (INSECTICIDE)

Qty Released: 673 PART(S) PER MILLION

---

#### DESCRIPTION OF INCIDENT

CALLER REPORTED AN UNKNOWN PINK POWDER SUBSTANCES WERE DISCOVERED ALONG A ROAD DITCH DURING MAINTENANCE WORK. IT WAS LATER IDENTIFIED TO BE CHLORPYRIFOS (INSECTICIDE) AT 207,000 PPM AND SULFOTEP (INSECTICIDE) AT 673 PPM. 04 INDIVIDUALS REPORTED RESPIRATORY AILMENTS DUE TO THESE SUBSTANCES AND ARE BEING TESTED AND OBSERVED

AT A MEDICAL FACILITY.

Polk County Public Works  
Y6318-012-17

23

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SENSITIVE INFORMATION

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INCIDENT DETAILS

Package: N/A  
Building ID:  
Type of Fixed Object: OTHER  
Power Generating Facility: NO  
Generating Capacity:  
Type of Fuel:  
NPDES:  
NPDES Compliance: UNKNOWN

---

IMPACT

Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: YES 4 Hospitalized: 4 Empl/Crew: Passenger:  
FATALITIES: NO Empl/Crew: Passenger: Occupant:  
EVACUATIONS:NO Who Evacuated: Radius/Area:

Damages: NO

| Closure Type | Description of Closure | Hours | Direction of | Closed | Closure |
|--------------|------------------------|-------|--------------|--------|---------|
| N            |                        |       |              |        |         |
| Air:         |                        |       |              |        |         |
| N            |                        |       | Major        |        |         |
| Road:        |                        |       | Artery:N     |        |         |
| N            |                        |       |              |        |         |
| Waterway:    |                        |       |              |        |         |
| N            |                        |       |              |        |         |
| Track:       |                        |       |              |        |         |

Environmental Impact: UNKNOWN

Media Interest: UNKNOWN Community Impact due to Material:

---

REMEDIAL ACTIONS

TURNED OVER TO LOCAL FIRE DEPARTMENT  
Release Secured: YES  
Release Rate:  
Estimated Release Duration:

---

WEATHER

Weather: CLEAR, 75°F

ADDITIONAL AGENCIES NOTIFIED

Polk County Public Works  
Y6318-012-17

Federal:

State/Local: OR ERS

State/Local On Scene: LOCAL FD,

State Agency Number: EMR: 2017-2436

(24)

---

NOTIFICATIONS BY NRC

CENTERS FOR DISEASE CONTROL (GRASP)

15-AUG-17 18:46 (770)4887100

DHS DEFENSE THREAT REDUCTION AGENCY (CHEMICAL AND BIOLOGICAL TECHNOLOGI

15-AUG-17 18:46 (703)7673477

NTNL PROGRAMS AND PROTECTION DIR (OFC OF INFRASTRUCTURE PROTECTION RGN

15-AUG-17 18:46 (202)3097911

DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)

15-AUG-17 18:46 (202)3661863

EPA CRIMINAL INVESTIGATION DIVISION (EPA CRIMINAL INVESTIGATION DIV REG

15-AUG-17 18:46 (206)5538306

EPA HQ EMERGENCY OPERATIONS CENTER (MAIN OFFICE)

15-AUG-17 18:46 (202)5643850

EPA HQ EMERGENCY OPERATIONS CENTER (AFTER HOURS SECONDARY)

(202)5643850

U.S. EPA X SEATTLE (MAIN OFFICE)

(206)5531263

U.S. EPA X SEATTLE (CID OREGON)

15-AUG-17 18:46 (206)5531263

FEMA REGION 10 (MAIN OFFICE)

15-AUG-17 18:46 (425)4874704

NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)

15-AUG-17 18:46 (202)2829201

NOAA RPTS FOR OR (MAIN OFFICE)

15-AUG-17 18:46 (206)5264911

NATIONAL RESPONSE CENTER HQ (MAIN OFFICE)

15-AUG-17 18:46

NATIONAL RESPONSE CENTER HQ (AUTOMATIC REPORTS)

15-AUG-17 18:46 (202)2671136

OREGON DEQ (EMERGENCY RESPONSE PROGRAM)

15-AUG-17 18:46 (503)2296391

OREGON TITAN FUSION CENTER (FUSION COMMAND CENTER)

15-AUG-17 18:46 (877)6204702

OREGON PUBLIC HEALTH (ENVIRON & OCCUPATIONAL EPIDEMIOLOGY)

15-AUG-17 18:46 (503)7314025

OCCUPATIONAL SAFETY & HEALTH ADMIN (MAIN OFFICE)

(801)9180995

REPORTING PARTY (RP SUBMITTER)

15-AUG-17 18:46

OREGON EMERGENCY MANAGEMENT (MAIN OFFICE)

15-AUG-17 18:46 (800)4520311

USCG DISTRICT 13 (DISTRICT THIRTEEN (DRAT - DRMM))

15-AUG-17 18:46 (206)2207221

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ADDITIONAL INFORMATION

8/22/17

25

Aug 7 @ 3 pm

PARC#18-0038

Dave Burbank

Ben Brown

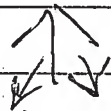
cleaning culverts

didn't note anything strange

jet router

flash of pink

powder inside pipe



3-4 feet in

~~Current~~ brought

back on Dave

buttoned down

called into road master on site

Danny Lundy (dir. Supervisor)

headed straight back

Released for day to go get cleaned

? if here or @ home

maybe arms & gear?

Contacted sheriff → FD → FD talked  
to Todd → if Hazmat FD etc

FD said not much less Todd caution

(20)

Jape? FD no more attention

didn't advise what to do

FD non shalant

Danny & I went out & contact

longest sinus weird feeling

8/8

opt all & went to Immediate care

Said couldn't test unknown

Ben little contact

Dave → worst went to Dr. Ferguson

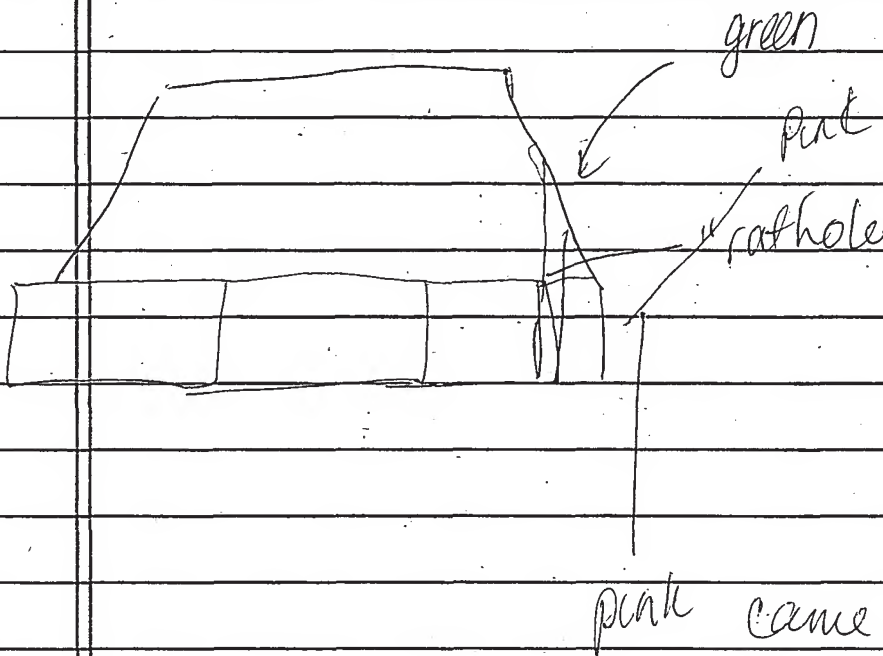
face hands  
lower arms

contact / inhalation

- Resp, sinus, dry raspy throat, flu like  
symptoms  
abdom  
cramps

Danny - Resp symptoms

Todd -



grey & green

27

When FD went out saw water tank  
from farmer holding down grate  
NO containers found

NRE cleaned up -  
DEQ paid for it

Todd Whittaker 503-  
623-9287

Danny Lundy

Ben Brown

Corvallis Clinic

Dave Burbank - Dr. Ferguson (Follow up)

WM.

blood 2350

541 7531786

Centex Dr.

Immediate Care

Emergency Medical Care

8/8 Immergent Care - 503 623 3199

Daves symptoms not gone on day 2

Sampling done -

Aug 8<sup>th</sup> afternoon

Todd  
Called in 8/15

Rec'd following Monday (Aug 12<sup>th</sup> dated)

Rec'd Monday

Level 1

Scraped down

DEQ not satisfied

to jet Route line

no samples

✓ Farmer came up & got notified when NWE

(78)

Danny has pictures of before cleanup.

EPA - Crimminad  
Ron Maysky

DEQ - Jeff Brown  
Polk Fire - Ned Olson

NRC - center - Petty Officer Domingo Mike Sibley EPA  
contractor Dave @ DEQ

Dave Masters @ DEQ, Dave Mastro S  
contractor Roman Giger

Have not had Debris @ this time.

William Ferguson MD  
Corvallis Clinic  
2350 NW  
Centuray Dr.  
Corvallis  
541 753 97330  
1786

Emergent  
Medical Care  
109 Ellendale Ave  
Ste B  
503 623 3199

(29)

Danny Lundy -

- symptoms: Beerbug; went to sinus HA → itchy dry throat
- went out on the 8<sup>th</sup> time left 15-20 minutes

left

Polk Fire went out & "cleared" it  
that evening

went out to confirm clearing  
peaked in the culvert  
10-15 min

peaked in on the tree side  
w/ a flash light -

containers

water from flushing powdering  
on top of water

Roadmaster

Dave called - headed into shop  
sharbed flushing 15' flush  
came back smelled odd -

Symptoms - HA fuzzy feeling  
him & Ben both experienced  
of that night

How clean up @ shop -

Sink stalls

Removed shirts

had layers on

5

Partial clothing removal

Ever happen before?

NO in culvert

- Reported suspicious containers before  
FD is who we call 'unknown substances'  
& ~~call~~ Police

Contract out hazmat

Roadside mounding yes —  
if see stuff → Report it

of containers

Separation in culverts  
dumped in

Weird greenish dye color by crack  
greenish dye

Always wear safety glasses, gloves  
Atlas head, cotton,  
HP

Last collection event annual @  
yard —

(31)

Dave Burbank

8 1/2 yrs

Heavy equip operator

1st thought  
chem from meth  
lab -  
containers

Aug 7th

Jet Router on heater truck  
to flush culber

every year been there

1st time this issue other than  
skunk

End of day - 3:00 pm

Brulenz Rd do all go in outlet  
Side could get out

Stopped put house in inlet  
Side stuck house & stuck

jet  
no

pulled couple feet & let go  
reach - to grab house

usually  
that  
starts it

41 (1st outside of little amount. said again)

fluorescent pink grabbed house - 8' away  
& stepped back 2 feet when let go stepped back

fog up 12' breeze beach

at most R face, front body R arm

good awful smell Pretty wet

called at Ben to get out  
of there

10-12 feet  
from  
tile  
culvert  
when must  
net

wind  
blew

Shirt off in truck backside clean  
thought it ok

Ben got a few water splatter  
all over rt side face

washed off best we could

put water truck far away

washed up @ shop & soap & water

⇒ Threw clothes away & took 3  
showers

inhaled twice

Symptoms: <sup>10 min</sup> ~~imm~~ HA, sinus, HA  
Esophagus sore,  
HA two days 3  
sore severe throat current  
choking up still

Wed noon - felt like flew up &  
stomach cramps

Thurs Cruddy left work @ noon

Hard to concentrate

3 hrs slept

flu like sym 2 1/2 days

Dr. Ferguson

Corvallis Clinic

got tests

Oce<sup>head</sup> Clinic

8 'o'clock Tues 15

got results

bloodwork

5 vials of ~~for~~

just water on trucks

Had huge screen by road

goes under ground to creek in field

One time hit a container smelled  
bad - went one

Common practice let someone know

Immediately called Danny one & only  
like this

PPE: using flush HH, gloves & Safety  
glasses

Had hazmat training 7 yrs Fire Dept  
there is a safety committee one

crossed  
mind  
not on  
back

(348)

Nothing on the ground  
Cleaned ditch 2 months ago  
Chemical in the tile  
15' joint in the culvert

Hose in 4' water shot 15' up the  
tiles 3' long bank 3,000 psi  
Cloud up 10-12' drifted  
Knew it was bad toward road  
Called Danny immediately after washing

Scraping done 2 months ago  
was exposed dirt  $\xrightarrow{20}$   
10  $\leftarrow$

8/23/17

(35)

Ben Brown -

5 month

Road maintenance work  
never have encounter

of contact  
of smell prior

Standing by end of culvert

on W.

side

self propelled

only went in 3-4' grab pull back  
normal for clog  
when he let go

sprayed water out & mist  
water pink

misted on Dave

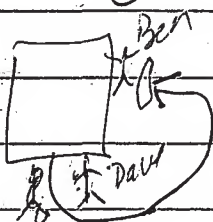
on gravel on road 3-4' back  
from slit

truck parked behind middle of  
road

to my right back of truck

got Ben a little

mist went toward  
Dave



(30)

Symptoms: couple minutes really  
plugged, running  
fine prior

got it the least

as soon as things went bad, got out  
of work & chemicals

Dave's the lead, knew something  
not right

drove up the road to get away  
called Danny -

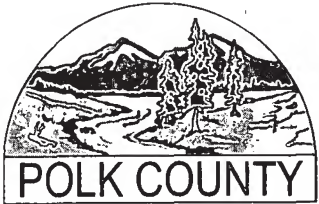
Randover down "Stream"

(37)

James + Julie Peters  
13030 Elkins Rd  
(803) 838-5495

8/24/17 gave info to George Brown @  
DEQ to pass along situation info  
to nearest folks.

28



**TODD WHITAKER, PE**  
*Director*

**PUBLIC WORKS  
DEPARTMENT**

820 S.W. ASH STREET  
DALLAS, OREGON 97338-2151

503-623-9287  
Fax 503-623-0897  
*whitaker.todd@co.polk.or.us*



**Geoffrey Brown**  
State On-Scene Coordinator  
Emergency Response Program  
Office: (541) 686-7819  
Cell: (541) 501-2145



[www.oregon.gov/DEQ](http://www.oregon.gov/DEQ)

# Oregon

DEPARTMENT OF  
ENVIRONMENTAL QUALITY

Western Region - Eugene  
165 East 7th Avenue, Suite 100  
Eugene, OR 97401-3049  
Fax: (541) 686-7551  
In OR: (800) 844-8467  
*brown.geoff@deq.state.or.us*



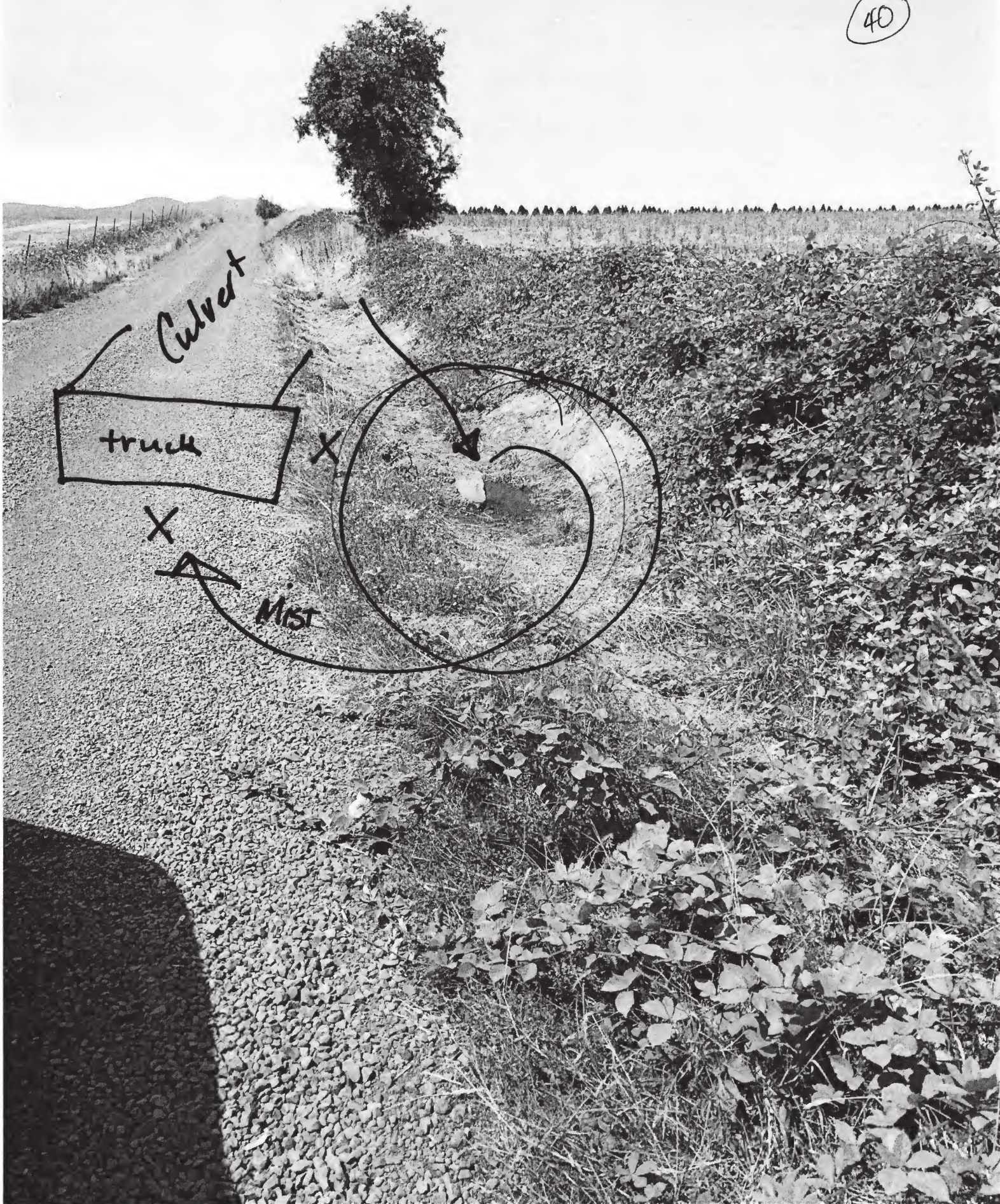


39

Polk County Public Works  
Y6318-012-17

air jet rod

40



41



42



43



Nearest  
house

drain to  
stream



Polk County Public Works  
Y6318-012-17 44

Polk County Public Works  
Y6318-012-17

15

Northwest  
of Culvert



460



Polk County Public Works  
Y6318-012-17

47

Footprint

After 2nd  
Jetrod  
separation





Polk County Public Works  
Y6318-012-17  
(48)

↓ Spray  
Blast  
area

Polk County Public Works  
Y6318-012-17

49



South side  
of culvert  
pressure  
tank  
on screen  
into field

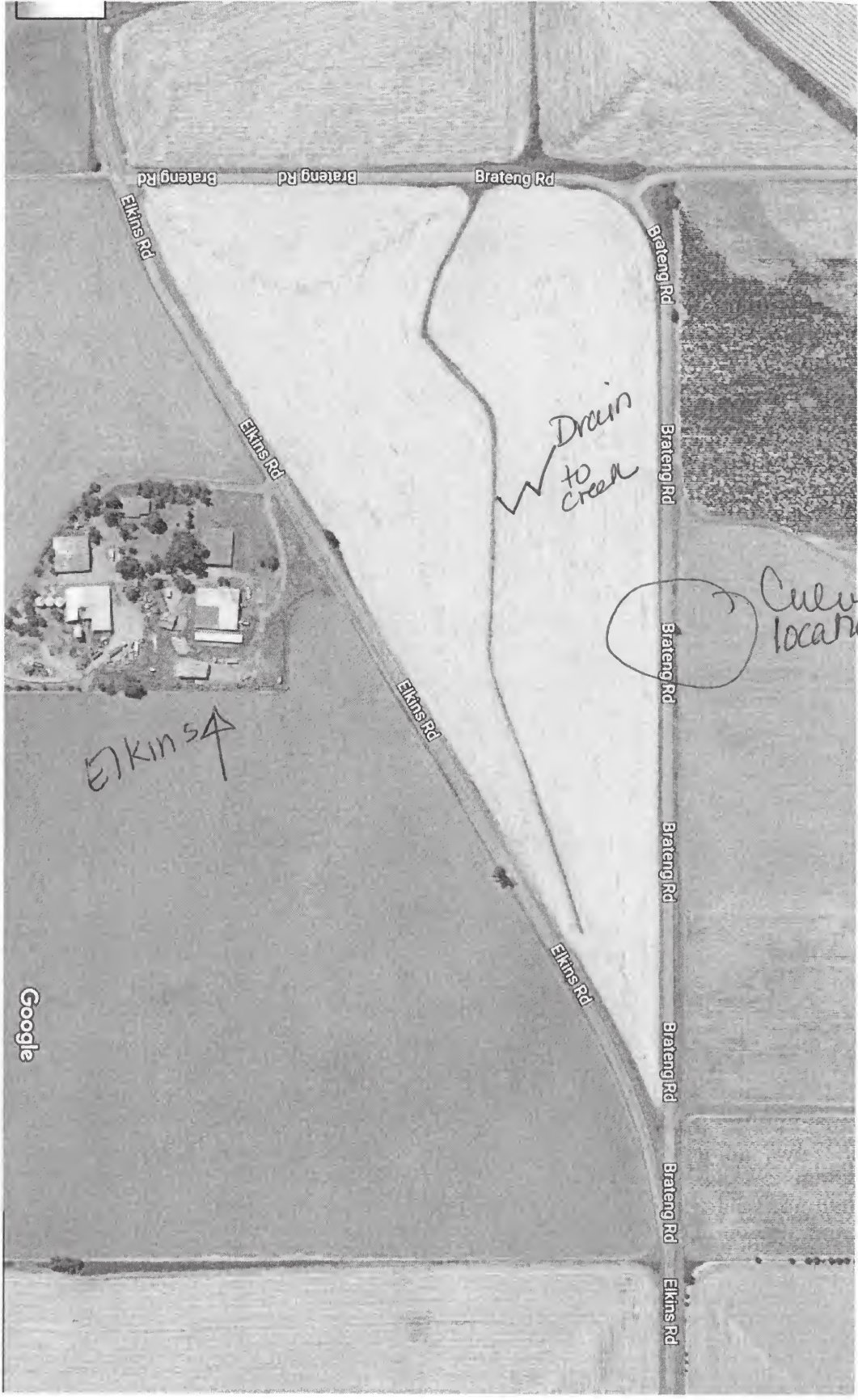
## Polk County EOP

## Incident Annex

## IA 4. Hazardous Materials (Accidental Release)

| Hazardous Materials Incident Checklist   |  |
|--|--|
| Action Items   | Supplemental Information                     |
| <b>PRE-INCIDENT PHASE</b>  |  |
| <input type="checkbox"/> Have personnel participate in necessary training and exercises, as determined by Polk County Emergency Management and the ESF 10 – Hazardous Materials Lead, including the Salem Office of State Fire Marshal Regional Hazardous Materials Response Team – HazMat 13. |  |
| <input type="checkbox"/> Participate in the County's preparedness activities, seeking understanding of interactions with agencies that would participate in a hazardous materials scenario.  |  |
| <input type="checkbox"/> Ensure that emergency contacts lists are updated and establish a pre-event duty roster allowing for 24/7 operational support for the County EOC.  |  |
| <input type="checkbox"/> Inform Emergency Management of any major developments that could adversely affect response operations (e.g., personnel shortages, loss of equipment, etc.).   |  |
| <b>RESPONSE PHASE</b>  |  |
| <input type="checkbox"/> In most incidents, the local fire districts will initially respond, assume initial Incident Commander responsibilities, and request activation/deployment of the Hazardous Materials Team.  | <i>ESF 10 Annex of the County EOP</i>        |
| <input type="checkbox"/> Determine the type, scope, and extent of the hazardous materials incident ( <i>recurring</i> ). Verify that reports and obtain estimates of the area that may be affected.  | <i>ICS Form 209: Incident Status Summary</i> |
| <input type="checkbox"/> Notify 911 dispatch, support agencies, adjacent jurisdictions, ESF coordinators, and liaisons of the situation.   |  |
| <input type="checkbox"/> Assess the type, severity, and size of the incident. If possible, characterize the hazardous material(s) of concern and determine appropriate personal protection equipment requirements.   |  |
| <input type="checkbox"/> Ensure that a health and safety plan is developed by the designated Safety Officer, including monitoring first responders in accordance with all applicable guidance.   |  |
| <input type="checkbox"/> Provide support for implementation of applicable Geographic Response Plans established by the Oregon Department of Environmental Quality to guide activities throughout the duration of the incident.   | <i>Northwest Area Contingency Plan</i>       |
| <input type="checkbox"/> Ensure that proper containment methods have been implemented by the first responders until hazardous materials response teams arrive.   |  |
| <input type="checkbox"/> Establish access control to the incident site through local law enforcement agencies.   |  |
| <input type="checkbox"/> If the situation warrants, request activation of the County EOC via the Incident Commander through the County Emergency Manager.  | <i>Section 5 of the County EOP</i>           |

57



Elkins

Drain to creek

Culvert location



## Oregon Emergency Response System (OERS)

Mailing Address:  
PO Box 14360  
Salem, OR 97309-6074

Nationwide: 800-452-0311  
Local: 503-378-6377

E-mail: oers.staff@state.or.us  
Fax: (503) 588-1378

Polk County Public Works  
Y6318-012-17

OERS Incident Number: 2017-2436

Incident Type: CBT

|           |            |    |      |       |                     |
|-----------|------------|----|------|-------|---------------------|
| Received: | 08/15/2017 | at | 1514 | Taken | Fitzpatrick, Tracie |
| Occurred: | 08/07/2017 | at | 1510 | By:   |                     |

|           |                             |                    |
|-----------|-----------------------------|--------------------|
| Location: | Brateng Rd. near Elkins Rd. | Coordination Time: |
| City:     | Monmouth                    | 15                 |
| County:   | Polk                        |                    |

| Contact Type: | Paged: | Answered: | Contact Name  | Organization: | Phone        |
|---------------|--------|-----------|---------------|---------------|--------------|
| Caller        |        |           | Todd Whitaker | Polk Co. PW   | 503-623-9287 |
| Comments      |        |           |               |               |              |
| Email         | 1538   |           | DEQ           | DEQ           |              |
| Comments      |        |           |               |               |              |
| Pager         | 1538   |           | DEQ           | DEQ           |              |
| Comments      |        |           |               |               |              |
| Email         | 1538   |           | OHA           | OHA           |              |
| Comments      |        |           |               |               |              |
| Pager         | 1538   |           | OHA           | OHA           |              |
| Comments      |        |           |               |               |              |
| Pager         | 1538   |           | OSHA          | OSHA          |              |
| Comments      |        |           |               |               |              |
| Email         | 1539   |           | AGRI          | AGRI          |              |
| Comments      |        |           |               |               |              |
| Pager         | 1539   |           | AGRI          | AGRI          |              |
| Comments      |        |           |               |               |              |
| Notification  | 1539   |           | PCC           | PCC           |              |
| Comments      |        |           |               |               |              |

## Incident Description:

Polk Co. PW reported the discovery of a pesticide spill. Polk Co. PW crews were at the listed location to work on a culvert and were exposed to an apparent dumping of pesticides. It's unknown exactly how much was dumped, or when it occurred, but it covered an area approximately 12ft x 3ft. The material was sampled and sent to a lab in Tigard and the substances were "chlorpyrifos" and "sulfotep". Since the discovery at least 3 employees needed medical attention after being exposed to the material. PW's ops plan is to refer the scene to the local fire dept. (Polk 1 FD, Neil Olson, 503-838-1510.) The exact location is the 1300 ft west of the east end intersection of Brateng Rd and Elkins Rd. It is an inlet to a culvert that leads to a field tile about 1 mile from flowing water. Unknown if waterways are threatened. No cleanup measures have been taken. Due to the remote location and low usage, the FD did not cone, or tape, off the area. Caller advised to report this to the NRC also.

|                                 |            |
|---------------------------------|------------|
| Material:                       | Pesticides |
| Unit Of Measure:                | UNK        |
| Quantity Released:              | unknown    |
| Release Source:                 | FIX        |
| Potential for further spillage: | None known |
| Site secured for safety:        | None       |
| Threat to public waterways:     | Possibly   |

Polk County Public Works  
Y6318-012-17

|                          |                                    |
|--------------------------|------------------------------------|
| Threat to public safety: | Yes, inhalation may cause symptoms |
| Threat to property:      | Unknown                            |
| Containment steps taken: | Referred to fire dept              |

(54)

**COOKE Garnet R \* DCBS**

Polk County Public Works  
Y6318-012-17

**From:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>  
**Sent:** Wednesday, August 16, 2017 10:16 AM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** Fwd: NRC#1187340

55

Begin forwarded message:

**From:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>  
**Subject:** Fwd: NRC#1187340  
**Date:** August 16, 2017 at 8:25:42 AM PDT  
**To:** Parc <[parc@oda.state.or.us](mailto:parc@oda.state.or.us)>

Begin forwarded message:

**From:** VAN-PATTEN Kimberlee <[kimberlee.van-patten@state.or.us](mailto:kimberlee.van-patten@state.or.us)>  
**Subject:** FW: NRC#1187340  
**Date:** August 15, 2017 at 4:29:41 PM PDT  
**To:** "'[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)'" <[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)>, BUNCH Theodore R <[Theodore.R.Bunch@state.or.us](mailto:Theodore.R.Bunch@state.or.us)>

Here is the corresponding NRC report.

Kimberlee Van Patten  
Duty Officer ~ Emergency Response Program  
Oregon Dept. of Environmental Quality  
503-229-5256 office  
971-563-8034 cell  
700 NE Multnomah St., Suite #1400  
Portland, OR 97232

-----Original Message-----

**From:** [HQS-PF-flidr-NRC@uscg.mil](mailto:HQS-PF-flidr-NRC@uscg.mil) [<mailto:HQS-PF-flidr-NRC@uscg.mil>]  
**Sent:** Tuesday, August 15, 2017 3:47 PM  
**To:** DO Spills \* DEQ  
**Subject:** NRC#1187340

NATIONAL RESPONSE CENTER 1-800-424-8802  
\*\*\*GOVERNMENT USE ONLY\*\*\*GOVERNMENT USE ONLY\*\*\*

Information released to a third party shall comply with any applicable federal and/or state Freedom of Information and Privacy Laws

Polk County Public Works  
Y6318-012-17

Incident Report # 1187340

50

#### INCIDENT DESCRIPTION

\*Report taken by: DO ALEXANDER DOMINGO ARANA at 18:30 on 15-AUG-17

Incident Type: FIXED

Incident Cause: DUMPING

Affected Area:

Incident was discovered on 07-AUG-17 at 15:10 local incident time.

Affected Medium: LAND COUNTY DITCH

---

#### REPORTING PARTY

Name: TODD WHITAKER

Organization: POLK COUNTY PUBLIC WORKS

Address: 820 SW ASH ST

DALLAS, OR 97338

Email Address: [whitaker.todd@co.polk.or.us](mailto:whitaker.todd@co.polk.or.us)

PRIMARY Phone: (503)6239287

Type of Organization: LOCAL GOVERNMENT

---

#### SUSPECTED RESPONSIBLE PARTY

Name: UNKNOWN

Type of Organization: UNKNOWN

---

#### INCIDENT LOCATION

10630 ELKINS RD County: POLK

City: DALLAS State: OR

ON BRATENG RD; APPX 1300 FT W FROM THE INTERSECTION WITH ELKINS RD

---

#### RELEASED MATERIAL(S)

CHRIS Code: NCC Official Material Name: NO CHRIS CODE

Also Known As: CHLORPYRIFOS (INSECTICIDE)

Qty Released: 207000 PART(S) PER MILLION

CHRIS Code: NCC Official Material Name: NO CHRIS CODE

Also Known As: SULFOTEP (INSECTICIDE)

Qty Released: 673 PART(S) PER MILLION

---

#### DESCRIPTION OF INCIDENT

CALLER REPORTED AN UNKNOWN PINK POWDER SUBSTANCES WERE DISCOVERED ALONG A ROAD DITCH DURING MAINTENANCE WORK. IT WAS LATER IDENTIFIED TO BE CHLORPYRIFOS (INSECTICIDE) AT 207,000 PPM AND SULFOTEP (INSECTICIDE) AT 673 PPM. 04 INDIVIDUALS REPORTED RESPIRATORY AILMENTS DUE TO THESE SUBSTANCES AND ARE BEING TESTED AND OBSERVED

AT A MEDICAL FACILITY.

Polk County Public Works  
Y6318-012-17

5P

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SENSITIVE INFORMATION

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---

INCIDENT DETAILS

---

Package: N/A  
Building ID:  
Type of Fixed Object: OTHER  
Power Generating Facility: NO  
Generating Capacity:  
Type of Fuel:  
NPDES:  
NPDES Compliance: UNKNOWN

---

IMPACT

---

Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: YES 4 Hospitalized: 4 Empl/Crew: Passenger:  
FATALITIES: NO Empl/Crew: Passenger: Occupant:  
EVACUATIONS:NO Who Evacuated: Radius/Area:

Damages: NO

|                                     | Hours  | Direction of |
|-------------------------------------|--------|--------------|
| Closure Type Description of Closure | Closed | Closure      |
| N                                   |        |              |
| Air:                                |        |              |
| N                                   |        | Major        |
| Road:                               |        | Artery:N     |
| N                                   |        |              |
| Waterway:                           |        |              |
| N                                   |        |              |
| Track:                              |        |              |

Environmental Impact: UNKNOWN

Media Interest: UNKNOWN Community Impact due to Material:

---

REMEDIAL ACTIONS

---

TURNED OVER TO LOCAL FIRE DEPARTMENT  
Release Secured: YES  
Release Rate:  
Estimated Release Duration:

---

WEATHER

---

Weather: CLEAR, 75°F

---

ADDITIONAL AGENCIES NOTIFIED

Federal:

State/Local: OR ERS

State/Local On Scene: LOCAL FD,

State Agency Number: EMR: 2017-2436

Polk County Public Works  
Y6318-012-17

(58)

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NOTIFICATIONS BY NRC

CENTERS FOR DISEASE CONTROL (GRASP)

15-AUG-17 18:46 (770)4887100

DHS DEFENSE THREAT REDUCTION AGENCY (CHEMICAL AND BIOLOGICAL TECHNOLOGI

15-AUG-17 18:46 (703)7673477

NTNL PROGRAMS AND PROTECTION DIR (OFC OF INFRASTRUCTURE PROTECTION RGN

15-AUG-17 18:46 (202)3097911

DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)

15-AUG-17 18:46 (202)3661863

EPA CRIMINAL INVESTIGATION DIVISION (EPA CRIMINAL INVESTIGATION DIV REG

15-AUG-17 18:46 (206)5538306

EPA HQ EMERGENCY OPERATIONS CENTER (MAIN OFFICE)

15-AUG-17 18:46 (202)5643850

EPA HQ EMERGENCY OPERATIONS CENTER (AFTER HOURS SECONDARY)

(202)5643850

U.S. EPA X SEATTLE (MAIN OFFICE)

(206)5531263

U.S. EPA X SEATTLE (CID OREGON)

15-AUG-17 18:46 (206)5531263

FEMA REGION 10 (MAIN OFFICE)

15-AUG-17 18:46 (425)4874704

NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)

15-AUG-17 18:46 (202)2829201

NOAA RPTS FOR OR (MAIN OFFICE)

15-AUG-17 18:46 (206)5264911

NATIONAL RESPONSE CENTER HQ (MAIN OFFICE)

15-AUG-17 18:46

NATIONAL RESPONSE CENTER HQ (AUTOMATIC REPORTS)

15-AUG-17 18:46 (202)2671136

OREGON DEQ (EMERGENCY RESPONSE PROGRAM)

15-AUG-17 18:46 (503)2296391

OREGON TITAN FUSION CENTER (FUSION COMMAND CENTER)

15-AUG-17 18:46 (877)6204702

OREGON PUBLIC HEALTH (ENVIRON & OCCUPATIONAL EPIDEMIOLOGY)

15-AUG-17 18:46 (503)7314025

OCCUPATIONAL SAFETY & HEALTH ADMIN (MAIN OFFICE)

(801)9180995

REPORTING PARTY (RP SUBMITTER)

15-AUG-17 18:46

OREGON EMERGENCY MANAGEMENT (MAIN OFFICE)

15-AUG-17 18:46 (800)4520311

USCG DISTRICT 13 (DISTRICT THIRTEEN (DRAT - DRMM))

15-AUG-17 18:46 (206)2207221

---

ADDITIONAL INFORMATION

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\*\*\* END INCIDENT REPORT #1187340 \*\*\*

Report any problems by calling 1-800-424-8802  
PLEASE VISIT OUR WEB SITE AT <http://www.nrc.uscg.mil>

Polk County Public Works  
Y6318-012-17



**OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY  
EMERGENCY RESPONSE/TIME CRITICAL REMOVAL INCIDENT ORDER**

Polk County Public Works  
Y6318-012-17

(10)

|                    |                            |
|--------------------|----------------------------|
| CONTRACTOR         | NRC Environmental Services |
| CONTRACT/PO NUMBER | 5858                       |
| ATTENTION          | Bob Ransdell               |
| PHONE NUMBER       | (800) 337-7455             |
| FAX NUMBER         | (503) 289-6568             |
| CONTACT PERSON     | Bob Ransdell               |

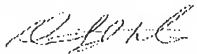
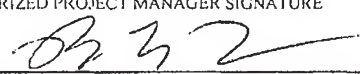
|  |               |
|--|---------------|
| DEQ INCIDENT ORDER NUMBER<br>(Project Number)<br>For Official Use Only | 17-06         |
| INCIDENT CHANGE ORDER NUMBER   |               |
| OERS NUMBER  | 2017-2436     |
| EPA GENERATOR NUMBER   |               |
| DEQ AUTHORIZED PROJECT MANAGER   | David Mastros |
| PHONE/PACER NO(S)  | 503-229-6712  |
| FAX NUMBER   | N/A           |

|                           |                |   |              |
|---------------------------|----------------|---|--------------|
| DEQ ON-SCENE COORDINATOR: | Geoff Brown    | PHONE NUMBER:   | 541-686-7819 |
| DEQ DIVISION/OFFICE:      | Western Region | MOBILE NUMBER:  | 541-501-2145 |
| YES                       | NO             | AUTHORIZED TO MAKE FIELD CHANGES WHICH CHANGE THE SCOPE OF THE I.O. WORK. |              |
| YES                       | NO             | AUTHORIZED TO MAKE FIELD CHANGES WHICH EXCEED THE TOTAL I.O. AMOUNT.      |              |

**SITE INFORMATION**

|  |                              |  |               |
|--|------------------------------|--|---------------|
| SITE NAME: Pesticide Dump - Brateng Rd   |                              |  |               |
| ADDRESS: About 1300 ft W from Intersection of Brateng and Elkins Rd.               |                              |  |               |
| CITY: Monmouth   |                              | COUNTY: Polk                               | STATE: Oregon |
| CHECK ALL WHICH APPLY:   |                              | SUSPECTED SUBSTANCE(S):                    |               |
| <input checked="" type="checkbox"/>  | EMERGENCY RESPONSE ACTION    | Chlorpyrifos (207k ppm), Sulfotep (673ppm) |               |
| <input type="checkbox"/>   | TIME CRITICAL REMOVAL ACTION | ESTIMATED QUANTITY:                        |               |
| <input type="checkbox"/>   | DRUG LAB                     | 3-5 ft of contaminated ditch               |               |
| <input type="checkbox"/>   | HIGHWAY RELATED SPILL        | ON-SCENE CONTACT PERSON/AGENCY:            |               |
| <input checked="" type="checkbox"/>  | ABANDONED WASTE MATERIAL     | n/a  |               |
| <input type="checkbox"/>   | LEAKING                      | MANIFEST TO BE SIGNED BY:                  |               |
| <input type="checkbox"/>   | CONTAINED                    | NRC Personnel                              |               |
| <input type="checkbox"/>   | OTHER                        | WASTE DISPOSITION:                         |               |
| <input type="checkbox"/>   | WAIVE ONE-HOUR MOBILIZATION  | Based on recommendation of contractor      |               |
| SCOPE OF WORK:   |                              |  |               |
| Assess extent of pesticide contamination   |                              |  |               |
| Remove pesticide and remediate affected soil                                       |                              |  |               |
| Dispose of pesticide and contaminated soil in accordance with all applicable laws. |                              |  |               |
| Contact DEQ if cleanup costs will exceed \$3,000.00                                |                              |  |               |
| ISSUE DATE/TIME 8/16/2017 0800   |                              | SCHEDULE: 8/16/2017 0800                   |               |
| FUND: HSSR SPLF  |                              | DCRF                                       |               |
| TYPE: SPILL DRUG   |                              | PHASE: RA                                  | EST HOURS: 2  |
| RESPONSIBLE PARTY: n/a   |                              | COST: \$3,500                              | \$ 3,500.00   |

This incident order, or change order, authorizes the above described work only. In the event of any uncertainty regarding the scope of cleanup requested under this incident order, as amended, or problems in cleaning up hazardous materials consistent with state law, the CONTRACTOR shall immediately contact the DEQ Authorized Project Manager or DEQ On-Scene Coordinator.

|   |           |
|---|-----------|
|  | 8/16/2017 |
| AUTHORIZED PROJECT MANAGER SIGNATURE  | DATE      |
|  | 8/16/17   |
| AUTHORIZED CLEANUP CONTRACTOR SIGNATURE   | DATE      |

|                  |  |
|------------------|--|
| EMAIL OR FAX TO: | 1) CONTRACTOR<br>2) DEQ ON-SCENE COORDINATOR<br>3) DEQ BUSINESS OFFICE C/O BELINDA SAUTAO<br>4) DEQ F&O COST RECOVERY COORDINATOR - (503) 229-6977 |
|------------------|--|

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

61

Polk County Public Works  
Y6318-012-17

Saturday, August 12, 2017

Ross McMakin  
NWFF  
PO Box 188  
Philomath, OR 97370

RE: 095 / 095

Enclosed are the results of analyses for work order A7H0255, which was received by the laboratory on 8/9/2017 at 8:42:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [dthomas@apex-labs.com](mailto:dthomas@apex-labs.com), or by phone at 503-718-2323.

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DRAFT REPORT

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DRAFT REPORT, DATA SUBJECT TO CHANGE

Page 1 of 22

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax



NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| US-1      | A7H0255-01    | Soil   | 08/08/17 11:50 | 08/09/17 08:42 |

DRAFT REPORT

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Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

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NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

ANALYTICAL SAMPLE RESULTS

Organochlorine Pesticides by EPA 8081B

| Analyte                        | Result | MDL                 | Reporting Limit | Units                 | Dilution | Date Analyzed     | Method    | Notes |
|--------------------------------|--------|---------------------|-----------------|-----------------------|----------|-------------------|-----------|-------|
| <b>US-1 (A7H0255-01RE1)</b>    |        | <b>Matrix: Soil</b> |                 | <b>Batch: 7080569</b> |          | <b>C-05, R-04</b> |           |       |
| Aldrin                         | ND     | 64.8                | 130             | mg/kg dry             | 10000    | 08/11/17 13.42    | EPA 8081B |       |
| alpha-BHC                      | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| beta-BHC                       | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| delta-BHC                      | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| gamma-BHC (Lindane)            | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| cis-Chlordane                  | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| trans-Chlordane                | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| 4,4'-DDD                       | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| 4,4'-DDE                       | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| 4,4'-DDT                       | ND     | 130                 | 130             | "                     | "        | "                 | "         |       |
| Dieldrin                       | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Endosulfan I                   | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Endosulfan II                  | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Endosulfan sulfate             | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Endrin                         | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Endrin Aldehyde                | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Endrin ketone                  | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Heptachlor                     | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Heptachlor epoxide             | ND     | 64.8                | 130             | "                     | "        | "                 | "         |       |
| Methoxychlor                   | ND     | 194                 | 389             | "                     | "        | "                 | "         |       |
| Chlordane (Technical)          | ND     | 1940                | 3890            | "                     | "        | "                 | "         |       |
| Toxaphene (Total)              | ND     | 1940                | 3890            | "                     | "        | "                 | "         |       |
| Surrogate: 2,4,5,6-TCMX (Surr) |        | Recovery: %         |                 | Limits: 42-129 %      |          | "                 |           | S-01  |
| Decachlorobiphenyl (Surr)      |        | %                   |                 | Limits: 65-151 %      |          | "                 |           | S-01  |

DRAFT REPORT

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Polk County Public Works  
Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

64

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## ANALYTICAL SAMPLE RESULTS

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                              | Result     | MDL                 | Reporting Limit | Units                 | Dilution | Date Analyzed  | Method    | Notes |
|--------------------------------------|------------|---------------------|-----------------|-----------------------|----------|----------------|-----------|-------|
| <b>US-1 (A7H0255-01)</b>             |            | <b>Matrix: Soil</b> |                 | <b>Batch: 7080573</b> |          |                |           |       |
| Azinphos methyl (Guthion)            | ND         | 35.9                | 71.7            | mg/kg dry             | 100      | 08/10/17 16:12 | 8270D OPP |       |
| Coumaphos                            | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Demeton O                            | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Demeton S                            | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Diazinon                             | ND         | 2290                | 2290            | "                     | "        | "              | "         | R-02  |
| Dichlorvos                           | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Dimethoate                           | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Disulfoton                           | ND         | 43.0                | 86.1            | "                     | "        | "              | "         |       |
| EPN                                  | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Ethoprophos (Prophos)                | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Fensulfothion                        | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Fenthion                             | ND         | 2440                | 2440            | "                     | "        | "              | "         | R-02  |
| Malathion                            | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Merphos                              | ND         | 93.2                | 93.2            | "                     | "        | "              | "         | R-02  |
| Methyl parathion                     | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Mevinphos (Phosdrin)                 | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Monocrotophos                        | ND         | 71.7                | 71.7            | "                     | "        | "              | "         |       |
| Naled (Dibrom)                       | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Phorate                              | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Ronnel (Fenchlorphos)                | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| <b>Sulfotep</b>                      | <b>673</b> | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| Sulprofos (Bolstar)                  | ND         | 35.9                | 71.7            | "                     | "        | "              | "         |       |
| TEPP                                 | ND         | 143                 | 287             | "                     | "        | "              | "         |       |
| Tetrachlorvinphos (Rabon)            | ND         | 71.7                | 71.7            | "                     | "        | "              | "         |       |
| Tokuthion (Prothiofos)               | ND         | 71.7                | 71.7            | "                     | "        | "              | "         |       |
| Trichloronate                        | ND         | 143                 | 143             | "                     | "        | "              | "         | R-02  |
| Surrogate: Tributyl phosphate (Surr) |            | Recovery: 643 %     |                 | Limits: 50-141 %      |          | "              | "         | S-05  |
| Triphenyl phosphate (Surr)           |            | 420 %               |                 | Limits: 60-130 %      |          | "              | "         | S-05  |

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Polk County Public Works  
Y6318-012-17  
12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

65

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## ANALYTICAL SAMPLE RESULTS

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                     | Result | MDL  | Reporting<br>Limit  | Units     | Dilution              | Date Analyzed  | Method    | Notes |
|-----------------------------|--------|------|---------------------|-----------|-----------------------|----------------|-----------|-------|
| <b>US-1 (A7H0255-01RE1)</b> |        |      | <b>Matrix: Soil</b> |           | <b>Batch: 7080573</b> |                |           |       |
| Chlorpyrifos                | 207000 | 3590 | 7170                | mg/kg dry | 10000                 | 08/10/17 16:49 | 8270D OPP | B-02  |
| Parathion, ethyl            | ND     | 3590 | 7170                | "         | "                     | "              | "         |       |

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Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax



NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
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Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

| Analyte           | Result | MDL          | Reporting<br>Limit | Units     | Dilution | Date Analyzed  | Method    | Notes |
|-------------------|--------|--------------|--------------------|-----------|----------|----------------|-----------|-------|
| US-1 (A7H0255-01) |        | Matrix: Soil |                    |           |          |                |           |       |
| Batch: 7080565    |        |              |                    |           |          |                |           |       |
| Antimony          | ND     | 0.824        | 1.65               | mg/kg dry | 10       | 08/11/17 20:01 | EPA 6020A | J     |
| Arsenic           | 2.12   | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Barium            | 53.0   | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Beryllium         | 0.240  | 0.165        | 0.330              | "         | "        | "              | "         |       |
| Cadmium           | ND     | 0.165        | 0.330              | "         | "        | "              | "         |       |
| Chromium          | 5.22   | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Cobalt            | 5.19   | 0.165        | 0.330              | "         | "        | "              | "         |       |
| Copper            | 12.2   | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Lead              | 3.98   | 0.165        | 0.330              | "         | "        | "              | "         |       |
| Mercury           | ND     | 0.0659       | 0.132              | "         | "        | "              | "         |       |
| Molybdenum        | ND     | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Nickel            | 3.48   | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Selenium          | ND     | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Silver            | ND     | 0.165        | 0.330              | "         | "        | "              | "         |       |
| Thallium          | ND     | 0.165        | 0.330              | "         | "        | "              | "         |       |
| Vanadium          | 17.1   | 0.824        | 1.65               | "         | "        | "              | "         |       |
| Zinc              | 14.5   | 3.30         | 6.59               | "         | "        | "              | "         |       |

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Polk County Public Works  
Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

67

|                     |                               |                |
|---------------------|-------------------------------|----------------|
| NWFF                | Project: 095                  |                |
| PO Box 188          | Project Number: 095           | Reported:      |
| Philomath, OR 97370 | Project Manager: Ross McMakin | 08/12/17 06:23 |

## ANALYTICAL SAMPLE RESULTS

| Percent Dry Weight |        |      |                 |             |                |                |           |       |
|--------------------|--------|------|-----------------|-------------|----------------|----------------|-----------|-------|
| Analyte            | Result | MDL  | Reporting Limit | Units       | Dilution       | Date Analyzed  | Method    | Notes |
| US-1 (A7H0255-01)  |        |      | Matrix: Soil    |             | Batch: 7080529 |                |           |       |
| % Solids           | 61.2   | 1.00 | 1.00            | % by Weight | 1              | 08/10/17 07:39 | EPA 8000C |       |

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Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

62

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Organochlorine Pesticides by EPA 8081B

| Analyte                              | Result | MDL      | Reporting Limit | Units     | Dil. | Spike Amount   | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--------------------------------------|--------|----------|-----------------|-----------|------|--|---------------|------|-------------|-----|-----------|-------|
| Batch 7080569 - EPA 3546/3640A (GPC) |        |          |                 |           |      | Soil   |               |      |             |     |           |       |
| Blank (7080569-BLK1)                 |        |          |                 |           |      | Prepared: 08/09/17 13:35    Analyzed: 08/11/17 12:14 |               |      |             |     | C-05      |       |
| EPA 8081B                            |        |          |                 |           |      |  |               |      |             |     |           |       |
| Aldrin                               | ND     | 0.000909 | 0.00182         | mg/kg wet | 1    | ---  | ---           | ---  | ---         | --- | ---       |       |
| alpha-BHC                            | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| beta-BHC                             | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| delta-BHC                            | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| gamma-BHC (Lindane)                  | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| cis-Chlordane                        | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| trans-Chlordane                      | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| 4,4'-DDD                             | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| 4,4'-DDE                             | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| 4,4'-DDT                             | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Dieldrin                             | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Endosulfan I                         | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Endosulfan II                        | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Endosulfan sulfate                   | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Endrin                               | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Endrin Aldehyde                      | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Endrin ketone                        | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Heptachlor                           | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Heptachlor epoxide                   | ND     | 0.000909 | 0.00182         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Methoxychlor                         | ND     | 0.00273  | 0.00545         | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Chlordane (Technical)                | ND     | 0.0273   | 0.0545          | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Toxaphene (Total)                    | ND     | 0.0273   | 0.0545          | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |

Surr: 2,4,5,6-TCMX (Surr) Recovery: 57 % Limits: 42-129 % Dilution: 1x  
Decachlorobiphenyl (Surr) 113 % 65-151 % "

| LCS (7080569-BS1)   |        |         |         | Prepared: 08/09/17 13:35    Analyzed: 08/11/17 12:31 |   |        |     |     |         |     |     | C-05 |      |
|---------------------|--------|---------|---------|--|---|--------|-----|-----|---------|-----|-----|------|------|
| EPA 8081B           |        |         |         |  |   |        |     |     |         |     |     |      |      |
| Aldrin              | 0.0416 | 0.00100 | 0.00200 | mg/kg wet  | 1 | 0.0500 | --- | 83  | 45-136% | --- | --- |      |      |
| alpha-BHC           | 0.0478 | 0.00100 | 0.00200 | "  | " | "      | --- | 96  | 45-137% | --- | --- |      | Q-41 |
| beta-BHC            | 0.0473 | 0.00100 | 0.00200 | "  | " | "      | --- | 95  | 50-136% | --- | --- |      |      |
| delta-BHC           | 0.0488 | 0.00100 | 0.00200 | "  | " | "      | --- | 97  | 47-139% | --- | --- |      | Q-41 |
| gamma-BHC (Lindane) | 0.0519 | 0.00100 | 0.00200 | "  | " | "      | --- | 104 | 49-135% | --- | --- |      | Q-41 |
| cis-Chlordane       | 0.0508 | 0.00100 | 0.00200 | "  | " | "      | --- | 102 | 54-133% | --- | --- |      |      |
| trans-Chlordane     | 0.0502 | 0.00100 | 0.00200 | "  | " | "      | --- | 100 | 53-135% | --- | --- |      |      |
| 4,4'-DDD            | 0.0595 | 0.00100 | 0.00200 | "  | " | "      | --- | 119 | 56-139% | --- | --- |      | Q-41 |

### DRAFT REPORT

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69

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Organochlorine Pesticides by EPA 8081B

| Analyte                              | Result | MDL     | Reporting Limit | Units                    | Dil.             | Spike Amount | Source Result | %REC                     | %REC Limits | RPD | RPD Limit | Notes      |
|--------------------------------------|--------|---------|-----------------|--------------------------|------------------|--------------|---------------|--------------------------|-------------|-----|-----------|------------|
| Batch 7080569 - EPA 3546/3640A (GPC) |        |         |                 |                          |                  |              | Soil          |                          |             |     |           |            |
| LCS (7080569-BS1)                    |        |         |                 | Prepared: 08/09/17 13:35 |                  |              |               | Analyzed: 08/11/17 12:31 |             |     |           | C-05       |
| EPA 8081B                            |        |         |                 |                          |                  |              |               |                          |             |     |           |            |
| 4,4'-DDE                             | 0.0478 | 0.00100 | 0.00200         | mg/kg wet                | "                | "            | ---           | 96                       | 56-134%     | --- | ---       |            |
| 4,4'-DDT                             | 0.0638 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 128                      | 50-141%     | --- | ---       |            |
| Dieldrin                             | 0.0572 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 114                      | 56-136%     | --- | ---       |            |
| Endosulfan I                         | 0.0562 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 112                      | 52-132%     | --- | ---       |            |
| Endosulfan II                        | 0.0615 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 123                      | 53-134%     | --- | ---       | Q-41       |
| Endosulfan sulfate                   | 0.0565 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 113                      | 55-136%     | --- | ---       | Q-41       |
| Endrin                               | 0.0634 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 127                      | 56-140%     | --- | ---       |            |
| Endrin Aldehyde                      | 0.0518 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 104                      | 35-137%     | --- | ---       |            |
| Endrin ketone                        | 0.0641 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 128                      | 55-136%     | --- | ---       | Q-41       |
| Heptachlor                           | 0.0530 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 106                      | 47-136%     | --- | ---       | Q-41       |
| Heptachlor epoxide                   | 0.0502 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 100                      | 52-136%     | --- | ---       |            |
| Methoxychlor                         | 0.0649 | 0.00300 | 0.00600         | "                        | "                | "            | ---           | 130                      | 52-143%     | --- | ---       |            |
| Surr: 2,4,5,6-TCMX (Surr)            |        |         | Recovery: 80 %  |                          | Limits: 42-129 % |              | Dilution: 1x  |                          |             |     |           |            |
| Decachlorobiphenyl (Surr)            |        |         | 112 %           |                          | 65-151 %         |              | "             |                          |             |     |           |            |
| LCS Dup (7080569-BSD1)               |        |         |                 | Prepared: 08/09/17 13:42 |                  |              |               | Analyzed: 08/11/17 12:49 |             |     |           | C-05, Q-19 |
| EPA 8081B                            |        |         |                 |                          |                  |              |               |                          |             |     |           |            |
| Aldrin                               | 0.0420 | 0.00100 | 0.00200         | mg/kg wet                | 1                | 0.0500       | ---           | 84                       | 45-136%     | 1   | 30%       |            |
| alpha-BHC                            | 0.0448 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 90                       | 45-137%     | 6   | 30%       | Q-41       |
| beta-BHC                             | 0.0444 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 89                       | 50-136%     | 6   | 30%       |            |
| delta-BHC                            | 0.0463 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 93                       | 47-139%     | 5   | 30%       | Q-41       |
| gamma-BHC (Lindane)                  | 0.0500 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 100                      | 49-135%     | 4   | 30%       | Q-41       |
| cis-Chlordane                        | 0.0475 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 95                       | 54-133%     | 7   | 30%       |            |
| trans-Chlordane                      | 0.0484 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 97                       | 53-135%     | 4   | 30%       |            |
| 4,4'-DDD                             | 0.0558 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 112                      | 56-139%     | 6   | 30%       | Q-41       |
| 4,4'-DDE                             | 0.0468 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 94                       | 56-134%     | 2   | 30%       |            |
| 4,4'-DDT                             | 0.0596 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 119                      | 50-141%     | 7   | 30%       |            |
| Dieldrin                             | 0.0530 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 106                      | 56-136%     | 8   | 30%       |            |
| Endosulfan I                         | 0.0530 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 106                      | 52-132%     | 6   | 30%       |            |
| Endosulfan II                        | 0.0570 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 114                      | 53-134%     | 8   | 30%       | Q-41       |
| Endosulfan sulfate                   | 0.0542 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 108                      | 55-136%     | 4   | 30%       | Q-41       |
| Endrin                               | 0.0590 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 118                      | 56-140%     | 7   | 30%       |            |
| Endrin Aldehyde                      | 0.0494 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 99                       | 35-137%     | 5   | 30%       |            |
| Endrin ketone                        | 0.0584 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 117                      | 55-136%     | 9   | 30%       | Q-41       |
| Heptachlor                           | 0.0520 | 0.00100 | 0.00200         | "                        | "                | "            | ---           | 104                      | 47-136%     | 2   | 30%       | Q-41       |

DRAFT REPORT

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Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

JP

|                     |                               |                |
|---------------------|-------------------------------|----------------|
| NWFF                | Project: 095                  |                |
| PO Box 188          | Project Number: 095           | Reported:      |
| Philomath, OR 97370 | Project Manager: Ross McMakin | 08/12/17 06:23 |

### QUALITY CONTROL (QC) SAMPLE RESULTS

#### Organochlorine Pesticides by EPA 8081B

| Analyte                              | Result | MDL     | Reporting Limit | Units                    | Dil.             | Spike Amount | Source Result | %REC                     | %REC Limits | RPD | RPD Limit | Notes      |
|--------------------------------------|--------|---------|-----------------|--------------------------|------------------|--------------|---------------|--------------------------|-------------|-----|-----------|------------|
| Batch 7080569 - EPA 3546/3640A (GPC) |        |         |                 |                          |                  | Soil         |               |                          |             |     |           |            |
| LCS Dup (7080569-BSD1)               |        |         |                 | Prepared: 08/09/17 13:42 |                  |              |               | Analyzed: 08/11/17 12:49 |             |     |           | C-05, Q-19 |
| EPA 8081B                            |        |         |                 |                          |                  |              |               |                          |             |     |           |            |
| Heptachlor epoxide                   | 0.0482 | 0.00100 | 0.00200         | mg/kg wet                | "                | "            | ---           | 96                       | 52-136%     | 4   | 30%       |            |
| Methoxychlor                         | 0.0709 | 0.00300 | 0.00600         | "                        | "                | "            | ---           | 142                      | 52-143%     | 9   | 30%       |            |
| Surr: 2,4,5,6-TCMX (Surr)            |        |         | Recovery: 75 %  |                          | Limits: 42-129 % |              | Dilution: 1x  |                          |             |     |           |            |
| Decachlorobiphenyl (Surr)            |        |         | 100 %           |                          | 65-151 %         |              | "             |                          |             |     |           |            |

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Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

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|                     |                               |                |
|---------------------|-------------------------------|----------------|
| NWFF                | Project: 095                  | Reported:      |
| PO Box 188          | Project Number: 095           | 08/12/17 06:23 |
| Philomath, OR 97370 | Project Manager: Ross McMakin |                |

### QUALITY CONTROL (QC) SAMPLE RESULTS

#### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                         | Result | MDL    | Reporting Limit | Units     | Dil.             | Spike Amount                                      | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes   |
|---------------------------------|--------|--------|-----------------|-----------|------------------|---|---------------|------|-------------|-----|-----------|---------|
| Batch 7080573 - EPA 3546        |        |        |                 |           |                  | Soil  |               |      |             |     |           |         |
| Blank (7080573-BLK1)            |        |        |                 |           |                  | Prepared: 08/10/17 11:48 Analyzed: 08/10/17 14:20 |               |      |             |     |           |         |
| 8270D OPP                       |        |        |                 |           |                  |   |               |      |             |     |           |         |
| Azinphos methyl (Guthion)       | ND     | 0.0250 | 0.0500          | mg/kg wet | 1                | ---   | ---           | ---  | ---         | --- | ---       | B-02, J |
| Chlorpyrifos                    | 0.0265 | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Coumaphos                       | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Demeton O                       | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Demeton S                       | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Diazinon                        | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Dichlorvos                      | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Dimethoate                      | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Disulfoton                      | ND     | 0.0300 | 0.0600          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| EPN                             | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Ethoprophos (Prophos)           | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Fensulfothion                   | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Fenthion                        | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Malathion                       | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Merphos                         | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Methyl parathion                | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Mevinphos (Phosdrin)            | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Monocrotophos                   | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Naled (Dibrom)                  | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Parathion, ethyl                | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Phorate                         | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Ronnel (Fenchlorphos)           | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Sulfotep                        | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Sulprofos (Bolstar)             | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| TEPP                            | ND     | 0.100  | 0.200           | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Tetrachlorvinphos (Rabon)       | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Tokuthion (Prothiofos)          | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Trichloronate                   | ND     | 0.0250 | 0.0500          | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |         |
| Surr: Tributyl phosphate (Surr) |        |        | Recovery: 80 %  |           | Limits: 50-141 % |   | Dilution: 1x  |      |             |     |           |         |
| Triphenyl phosphate (Surr)      |        |        | 83 %            |           | 60-130 %         |   | "             |      |             |     |           |         |

|                           |       |        |        |  |   |       |     |    |         |     |     |
|---------------------------|-------|--------|--------|--|---|-------|-----|----|---------|-----|-----|
| LCS (7080573-BS1)         |       |        |        | Prepared: 08/10/17 11:48    Analyzed: 08/10/17 14:57 |   |       |     |    |         |     |     |
| 8270D OPP                 |       |        |        |  |   |       |     |    |         |     |     |
| Azinphos methyl (Guthion) | 0.344 | 0.0250 | 0.0500 | mg/kg wet  | 1 | 0.400 | --- | 86 | 38-156% | --- | --- |
| Chlorpyrifos              | 0.379 | 0.0250 | 0.0500 | "  | " | "     | --- | 95 | 47-140% | --- | --- |

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# Apex Labs

Polk County Public Works  
Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

72

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte  | Result | MDL    | Reporting Limit | Units     | Dil. | Spike Amount                                      | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|--------|-----------------|-----------|------|---|---------------|------|-------------|-----|-----------|-------|
| Batch 7080573 - EPA 3546   |        |        |                 |           |      | Soil  |               |      |             |     |           |       |
| LCS (7080573-BS1)  |        |        |                 |           |      | Prepared: 08/10/17 11:48 Analyzed: 08/10/17 14:57 |               |      |             |     |           |       |
| 8270D OPP  |        |        |                 |           |      |   |               |      |             |     |           |       |
| Coumaphos  | 0.393  | 0.0250 | 0.0500          | mg/kg wet | "    | "   | ---           | 98   | 37-160%     | --- | ---       |       |
| Demeton O  | 0.0805 | 0.0250 | 0.0500          | "         | "    | 0.0976  | ---           | 83   | 43-117%     | --- | ---       |       |
| Demeton S  | 0.237  | 0.0250 | 0.0500          | "         | "    | 0.268   | ---           | 88   | "           | --- | ---       |       |
| Diazinon   | 0.356  | 0.0250 | 0.0500          | "         | "    | 0.400   | ---           | 89   | 42-134%     | --- | ---       |       |
| Dichlorvos   | 0.418  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 105  | 39-142%     | --- | ---       |       |
| Dimethoate   | 0.353  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 88   | 16-139%     | --- | ---       |       |
| Disulfoton   | 0.377  | 0.0300 | 0.0600          | "         | "    | "   | ---           | 94   | 28-144%     | --- | ---       |       |
| EPN  | 0.404  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 101  | 44-137%     | --- | ---       |       |
| Ethoprophos (Prophos)  | 0.396  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 99   | 47-128%     | --- | ---       |       |
| Fensulfothion  | 0.419  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 105  | 27-147%     | --- | ---       | Q-41  |
| Fenthion   | 0.366  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 91   | 44-134%     | --- | ---       |       |
| Malathion  | 0.359  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 90   | 46-137%     | --- | ---       |       |
| Merphos  | 0.395  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 99   | 0-153%      | --- | ---       |       |
| Methyl parathion   | 0.393  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 98   | 49-138%     | --- | ---       |       |
| Mevinphos (Phosdrin)   | 0.363  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 91   | 12-176%     | --- | ---       |       |
| Monocrotophos  | 0.347  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 87   | 65-135%     | --- | ---       |       |
| Naled (Dibrom)   | 0.351  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 88   | 0-174%      | --- | ---       |       |
| Parathion, ethyl   | 0.377  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 94   | 50-139%     | --- | ---       |       |
| Phorate  | 0.389  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 97   | 23-142%     | --- | ---       |       |
| Ronnel (Fenchlorphos)  | 0.356  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 89   | 45-138%     | --- | ---       |       |
| Sulfotep   | 0.376  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 94   | 52-126%     | --- | ---       |       |
| Sulprofos (Bolstar)  | 0.381  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 95   | 48-139%     | --- | ---       |       |
| TEPP   | 0.333  | 0.100  | 0.200           | "         | "    | "   | ---           | 83   | 30-150%     | --- | ---       |       |
| Tetrachlorvinphos (Rabon)  | 0.353  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 88   | 54-129%     | --- | ---       |       |
| Tokuthion (Prothiofos)   | 0.363  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 91   | 45-136%     | --- | ---       |       |
| Trichloronate  | 0.368  | 0.0250 | 0.0500          | "         | "    | "   | ---           | 92   | 37-140%     | --- | ---       |       |
| Surr: Tributyl phosphate (Surr) Recovery: 88 % Limits: 50-141 % Dilution: 1x |        |        |                 |           |      |   |               |      |             |     |           |       |
| Triphenyl phosphate (Surr) 89 % 60-130 % "                                   |        |        |                 |           |      |   |               |      |             |     |           |       |

| LCS Dup (7080573-BSD1)    |        |        |        |           |   | Prepared: 08/10/17 11:48    Analyzed: 08/10/17 15:35 |     |     |         |   |     | Q-19 |  |
|---------------------------|--------|--------|--------|-----------|---|--|-----|-----|---------|---|-----|------|--|
| 8270D OPP                 |        |        |        |           |   |  |     |     |         |   |     |      |  |
| Azinphos methyl (Guthion) | 0.365  | 0.0250 | 0.0500 | mg/kg wet | 1 | 0.400  | --- | 91  | 38-156% | 6 | 20% |      |  |
| Chlorpyrifos              | 0.371  | 0.0250 | 0.0500 | "         | " | "  | --- | 93  | 47-140% | 2 | 20% | B-02 |  |
| Coumaphos                 | 0.407  | 0.0250 | 0.0500 | "         | " | "  | --- | 102 | 37-160% | 3 | 20% |      |  |
| Demeton O                 | 0.0849 | 0.0250 | 0.0500 | "         | " | 0.0976   | --- | 87  | 43-117% | 5 | 20% |      |  |

## DRAFT REPORT

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# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

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|                     |                               |                |
|---------------------|-------------------------------|----------------|
| NWFF                | Project: 095                  | Reported:      |
| PO Box 188          | Project Number: 095           | 08/12/17 06:23 |
| Philomath, OR 97370 | Project Manager: Ross McMakin |                |

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                         | Result | MDL    | Reporting Limit | Units     | Dil.             | Spike Amount                                      | Source Result | %REC | %REC Limits | RPD  | RPD Limit | Notes |
|---------------------------------|--------|--------|-----------------|-----------|------------------|---|---------------|------|-------------|------|-----------|-------|
| Batch 7080573 - EPA 3546        |        |        |                 |           |                  | Soil  |               |      |             |      |           |       |
| LCS Dup (7080573-BSD1)          |        |        |                 |           |                  | Prepared: 08/10/17 11:48 Analyzed: 08/10/17 15:35 |               |      |             |      |           | Q-19  |
| 8270D OPP                       |        |        |                 |           |                  |   |               |      |             |      |           |       |
| Demeton S                       | 0.225  | 0.0250 | 0.0500          | mg/kg wet | "                | 0.268   | ---           | 84   | "           | 5    | 20%       |       |
| Diazinon                        | 0.358  | 0.0250 | 0.0500          | "         | "                | 0.400   | ---           | 89   | 42-134%     | 0.6  | 20%       |       |
| Dichlorvos                      | 0.401  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 100  | 39-142%     | 4    | 20%       |       |
| Dimethoate                      | 0.353  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 88   | 16-139%     | 0.02 | 20%       |       |
| Disulfoton                      | 0.362  | 0.0300 | 0.0600          | "         | "                | "   | ---           | 91   | 28-144%     | 4    | 20%       |       |
| EPN                             | 0.413  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 103  | 44-137%     | 2    | 20%       |       |
| Ethoprophos (Prophos)           | 0.377  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 94   | 47-128%     | 5    | 20%       |       |
| Fensulfothion                   | 0.436  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 109  | 27-147%     | 4    | 20%       | Q-41  |
| Fenthion                        | 0.363  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 91   | 44-134%     | 0.7  | 20%       |       |
| Malathion                       | 0.347  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 87   | 46-137%     | 3    | 20%       |       |
| Merphos                         | 0.392  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 98   | 0-153%      | 0.7  | 20%       |       |
| Methyl parathion                | 0.388  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 97   | 49-138%     | 1    | 20%       |       |
| Mevinphos (Phosdrin)            | 0.376  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 94   | 12-176%     | 3    | 20%       |       |
| Monocrotophos                   | 0.328  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 82   | 65-135%     | 6    | 20%       |       |
| Naled (Dibrom)                  | 0.371  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 93   | 0-174%      | 5    | 20%       |       |
| Parathion, ethyl                | 0.375  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 94   | 50-139%     | 0.5  | 20%       |       |
| Phorate                         | 0.394  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 99   | 23-142%     | 1    | 20%       |       |
| Ronnel (Fenchlorphos)           | 0.349  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 87   | 45-138%     | 2    | 20%       |       |
| Sulfotep                        | 0.380  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 95   | 52-126%     | 1    | 20%       |       |
| Sulprofos (Bolstar)             | 0.364  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 91   | 48-139%     | 4    | 20%       |       |
| TEPP                            | 0.331  | 0.100  | 0.200           | "         | "                | "   | ---           | 83   | 30-150%     | 0.8  | 20%       |       |
| Tetrachlorvinphos (Rabon)       | 0.354  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 89   | 54-129%     | 0.5  | 20%       |       |
| Tokuthion (Prothiofos)          | 0.356  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 89   | 45-136%     | 2    | 20%       |       |
| Trichloronate                   | 0.357  | 0.0250 | 0.0500          | "         | "                | "   | ---           | 89   | 37-140%     | 3    | 20%       |       |
| Surr: Tributyl phosphate (Surr) |        |        | Recovery: 89 %  |           | Limits: 50-141 % |   | Dilution: 1x  |      |             |      |           |       |
| Triphenyl phosphate (Surr)      |        |        | 85 %            |           | 60-130 %         |   | "             |      |             |      |           |       |

DRAFT REPORT

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# Apex Labs

Polk County Public Works  
Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

79

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

| Analyte                   | Result | MDL    | Reporting Limit | Units     | Dil. | Spike Amount   | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------|--------|--------|-----------------|-----------|------|--|---------------|------|-------------|-----|-----------|-------|
| Batch 7080565 - EPA 3051A |        |        |                 |           |      | Soil   |               |      |             |     |           |       |
| Blank (7080565-BLK1)      |        |        |                 |           |      | Prepared: 08/10/17 09:23    Analyzed: 08/11/17 18:41 |               |      |             |     |           |       |
| EPA 6020A                 |        |        |                 |           |      |  |               |      |             |     |           |       |
| Antimony                  | ND     | 0.500  | 1.00            | mg/kg wet | 10   | ---  | ---           | ---  | ---         | --- | ---       |       |
| Arsenic                   | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Barium                    | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Beryllium                 | ND     | 0.100  | 0.200           | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Cadmium                   | ND     | 0.100  | 0.200           | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Chromium                  | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Cobalt                    | ND     | 0.100  | 0.200           | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Copper                    | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Lead                      | ND     | 0.100  | 0.200           | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Mercury                   | ND     | 0.0400 | 0.0800          | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Molybdenum                | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Nickel                    | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Selenium                  | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Silver                    | ND     | 0.100  | 0.200           | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Thallium                  | ND     | 0.100  | 0.200           | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Vanadium                  | ND     | 0.500  | 1.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |
| Zinc                      | ND     | 2.00   | 4.00            | "         | "    | ---  | ---           | ---  | ---         | --- | ---       |       |

### LCS (7080565-BS1)

Prepared: 08/10/17 09:23 Analyzed: 08/11/17 18:45

|                  |      |        |        |           |    |      |     |     |         |     |     |  |
|------------------|------|--------|--------|-----------|----|------|-----|-----|---------|-----|-----|--|
| <b>EPA 6020A</b> |      |        |        |           |    |      |     |     |         |     |     |  |
| Antimony         | 26.9 | 0.500  | 1.00   | mg/kg wet | 10 | 25.0 | --- | 108 | 80-120% | --- | --- |  |
| Arsenic          | 51.4 | 0.500  | 1.00   | "         | "  | 50.0 | --- | 103 | "       | --- | --- |  |
| Barium           | 51.7 | 0.500  | 1.00   | "         | "  | "    | --- | 103 | "       | --- | --- |  |
| Beryllium        | 27.0 | 0.100  | 0.200  | "         | "  | 25.0 | --- | 108 | "       | --- | --- |  |
| Cadmium          | 53.7 | 0.100  | 0.200  | "         | "  | 50.0 | --- | 107 | "       | --- | --- |  |
| Chromium         | 48.8 | 0.500  | 1.00   | "         | "  | "    | --- | 97  | "       | --- | --- |  |
| Cobalt           | 52.4 | 0.100  | 0.200  | "         | "  | "    | --- | 105 | "       | --- | --- |  |
| Copper           | 52.5 | 0.500  | 1.00   | "         | "  | "    | --- | 105 | "       | --- | --- |  |
| Lead             | 55.7 | 0.100  | 0.200  | "         | "  | "    | --- | 111 | "       | --- | --- |  |
| Mercury          | 1.12 | 0.0400 | 0.0800 | "         | "  | 1.00 | --- | 112 | "       | --- | --- |  |
| Molybdenum       | 24.9 | 0.500  | 1.00   | "         | "  | 25.0 | --- | 100 | "       | --- | --- |  |
| Nickel           | 52.1 | 0.500  | 1.00   | "         | "  | 50.0 | --- | 104 | "       | --- | --- |  |
| Selenium         | 28.9 | 0.500  | 1.00   | "         | "  | 25.0 | --- | 116 | "       | --- | --- |  |
| Silver           | 25.9 | 0.100  | 0.200  | "         | "  | "    | --- | 104 | "       | --- | --- |  |
| Thallium         | 28.0 | 0.100  | 0.200  | "         | "  | "    | --- | 112 | "       | --- | --- |  |

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

75

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

| Analyte                             | Result | MDL    | Reporting Limit | Units   | Dil. | Spike Amount | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes   |
|-------------------------------------|--------|--------|-----------------|---|------|--------------|---------------|------|-------------|-----|-----------|---------|
| Batch 7080565 - EPA 3051A           |        |        |                 |   |      | Soil         |               |      |             |     |           |         |
| LCS (7080565-BS1)                   |        |        |                 | Prepared: 08/10/17 09:23 Analyzed: 08/11/17 18:45 |      |              |               |      |             |     |           |         |
| EPA 6020A                           |        |        |                 |   |      |              |               |      |             |     |           |         |
| Vanadium                            | 49.9   | 0.500  | 1.00            | mg/kg wet   | "    | 50.0         | ---           | 100  | "           | --- | ---       |         |
| Zinc                                | 53.1   | 2.00   | 4.00            | "   | "    | "            | ---           | 106  | "           | --- | ---       |         |
| Duplicate (7080565-DUP1)            |        |        |                 | Prepared: 08/10/17 09:23 Analyzed: 08/11/17 20:05 |      |              |               |      |             |     |           |         |
| QC Source Sample: US-1 (A7H0255-01) |        |        |                 |   |      |              |               |      |             |     |           |         |
| EPA 6020A                           |        |        |                 |   |      |              |               |      |             |     |           |         |
| Antimony                            | ND     | 0.795  | 1.59            | mg/kg dry   | 10   | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Arsenic                             | 2.62   | 0.795  | 1.59            | "   | "    | ---          | 2.12          | ---  | ---         | 21  | 40%       | Q-04    |
| Barium                              | 85.7   | 0.795  | 1.59            | "   | "    | ---          | 53.0          | ---  | ---         | 47  | 40%       | Q-04    |
| Beryllium                           | 0.249  | 0.159  | 0.318           | "   | "    | ---          | 0.240         | ---  | ---         | 3   | 40%       | Q-05, J |
| Cadmium                             | ND     | 0.159  | 0.318           | "   | "    | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Chromium                            | 7.46   | 0.795  | 1.59            | "   | "    | ---          | 5.22          | ---  | ---         | 35  | 40%       | Q-04    |
| Cobalt                              | 4.57   | 0.159  | 0.318           | "   | "    | ---          | 5.19          | ---  | ---         | 13  | 40%       | Q-04    |
| Copper                              | 15.9   | 0.795  | 1.59            | "   | "    | ---          | 12.2          | ---  | ---         | 26  | 40%       | Q-04    |
| Lead                                | 3.60   | 0.159  | 0.318           | "   | "    | ---          | 3.98          | ---  | ---         | 10  | 40%       | Q-04    |
| Mercury                             | ND     | 0.0636 | 0.127           | "   | "    | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Molybdenum                          | ND     | 0.795  | 1.59            | "   | "    | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Nickel                              | 5.58   | 0.795  | 1.59            | "   | "    | ---          | 3.48          | ---  | ---         | 46  | 40%       | Q-04    |
| Selenium                            | ND     | 0.795  | 1.59            | "   | "    | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Silver                              | ND     | 0.159  | 0.318           | "   | "    | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Thallium                            | ND     | 0.159  | 0.318           | "   | "    | ---          | ND            | ---  | ---         | --- | 40%       |         |
| Vanadium                            | 22.3   | 0.795  | 1.59            | "   | "    | ---          | 17.1          | ---  | ---         | 26  | 40%       | Q-04    |
| Zinc                                | 22.0   | 3.18   | 6.36            | "   | "    | ---          | 14.5          | ---  | ---         | 41  | 40%       | Q-04    |
| Matrix Spike (7080565-MS1)          |        |        |                 | Prepared: 08/10/17 09:23 Analyzed: 08/11/17 20:10 |      |              |               |      |             |     |           |         |
| QC Source Sample: US-1 (A7H0255-01) |        |        |                 |   |      |              |               |      |             |     |           |         |
| EPA 6020A                           |        |        |                 |   |      |              |               |      |             |     |           |         |
| Antimony                            | 41.8   | 0.853  | 1.71            | mg/kg dry   | 10   | 42.6         | ND            | 98   | 75-125%     | --- | ---       |         |
| Arsenic                             | 94.2   | 0.853  | 1.71            | "   | "    | 85.4         | 2.12          | 108  | "           | --- | ---       |         |
| Barium                              | 164    | 0.853  | 1.71            | "   | "    | "            | 53.0          | 130  | "           | --- | ---       | Q-04    |
| Beryllium                           | 46.7   | 0.171  | 0.341           | "   | "    | 42.6         | 0.240         | 109  | "           | --- | ---       |         |
| Cadmium                             | 90.5   | 0.171  | 0.341           | "   | "    | 85.4         | ND            | 106  | "           | --- | ---       |         |
| Chromium                            | 95.2   | 0.853  | 1.71            | "   | "    | "            | 5.22          | 105  | "           | --- | ---       |         |
| Cobalt                              | 96.7   | 0.171  | 0.341           | "   | "    | "            | 5.19          | 107  | "           | --- | ---       |         |
| Copper                              | 115    | 0.853  | 1.71            | "   | "    | "            | 12.2          | 120  | "           | --- | ---       | Q-04    |

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Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

76

|                     |                               |                |
|---------------------|-------------------------------|----------------|
| NWFF                | Project: 095                  |                |
| PO Box 188          | Project Number: 095           | Reported:      |
| Philomath, OR 97370 | Project Manager: Ross McMakin | 08/12/17 06:23 |

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Total Metals by EPA 6020 (ICPMS)

| Analyte                             | Result | MDL    | Reporting Limit | Units     | Dil. | Spike Amount   | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-------------------------------------|--------|--------|-----------------|-----------|------|--|---------------|------|-------------|-----|-----------|-------|
| Batch 7080565 - EPA 3051A           |        |        |                 |           |      | Soil   |               |      |             |     |           |       |
| Matrix Spike (7080565-MS1)          |        |        |                 |           |      | Prepared: 08/10/17 09:23    Analyzed: 08/11/17 20:10 |               |      |             |     |           |       |
| QC Source Sample: US-1 (A7H0255-01) |        |        |                 |           |      |  |               |      |             |     |           |       |
| EPA 6020A                           |        |        |                 |           |      |  |               |      |             |     |           |       |
| Lead                                | 97.4   | 0.171  | 0.341           | mg/kg dry | "    | "  | 3.98          | 109  | "           | --- | ---       |       |
| Mercury                             | 1.84   | 0.0683 | 0.137           | "         | "    | 1.71   | ND            | 108  | "           | --- | ---       |       |
| Molybdenum                          | 43.4   | 0.853  | 1.71            | "         | "    | 42.6   | ND            | 102  | "           | --- | ---       |       |
| Nickel                              | 95.5   | 0.853  | 1.71            | "         | "    | 85.4   | 3.48          | 108  | "           | --- | ---       |       |
| Selenium                            | 49.8   | 0.853  | 1.71            | "         | "    | 42.6   | ND            | 117  | "           | --- | ---       |       |
| Silver                              | 43.6   | 0.171  | 0.341           | "         | "    | "  | ND            | 102  | "           | --- | ---       |       |
| Thallium                            | 46.5   | 0.171  | 0.341           | "         | "    | "  | ND            | 109  | "           | --- | ---       |       |
| Vanadium                            | 118    | 0.853  | 1.71            | "         | "    | 85.4   | 17.1          | 119  | "           | --- | ---       | Q-04  |
| Zinc                                | 119    | 3.41   | 6.83            | "         | "    | "  | 14.5          | 122  | "           | --- | ---       | Q-04  |

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

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NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

| Analyte                                   | Result | MDL | Reporting<br>Limit | Units | Dil. | Spike<br>Amount | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Notes |
|---|--------|-----|--------------------|-------|------|-----------------|------------------|------|----------------|-----|--------------|-------|
| Batch 7080529 - Total Solids (Dry Weight) |        |     |                    |       |      |                 | Soil             |      |                |     |              |       |

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

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| NWFF                | Project: 095                  | Reported:      |
| PO Box 188          | Project Number: 095           | 08/12/17 06:23 |
| Philomath, OR 97370 | Project Manager: Ross McMakin |                |

## SAMPLE PREPARATION INFORMATION

### Organochlorine Pesticides by EPA 8081B

| Prep: EPA 3546/3640A (GPC) |        |           |                |                | Sample        | Default       | RL Prep |
|----------------------------|--------|-----------|----------------|----------------|---------------|---------------|---------|
| Lab Number                 | Matrix | Method    | Sampled        | Prepared       | Initial/Final | Initial/Final | Factor  |
| Batch: 7080569             |        |           |                |                |               |               |         |
| A7H0255-01RE1              | Soil   | EPA 8081B | 08/08/17 11:50 | 08/09/17 13:35 | 10.09g/40mL   | 10g/5mL       | 7.93    |

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Prep: EPA 3546 |        |           |                |                | Sample        | Default       | RL Prep |
|----------------|--------|-----------|----------------|----------------|---------------|---------------|---------|
| Lab Number     | Matrix | Method    | Sampled        | Prepared       | Initial/Final | Initial/Final | Factor  |
| Batch: 7080573 |        |           |                |                |               |               |         |
| A7H0255-01     | Soil   | 8270D OPP | 08/08/17 11:50 | 08/10/17 11:48 | 1.14g/5mL     | 10g/5mL       | 8.77    |
| A7H0255-01RE1  | Soil   | 8270D OPP | 08/08/17 11:50 | 08/10/17 11:48 | 1.14g/5mL     | 10g/5mL       | 8.77    |

### Total Metals by EPA 6020 (ICPMS)

| Prep: EPA 3051A |        |           |                |                | Sample        | Default       | RL Prep |
|-----------------|--------|-----------|----------------|----------------|---------------|---------------|---------|
| Lab Number      | Matrix | Method    | Sampled        | Prepared       | Initial/Final | Initial/Final | Factor  |
| Batch: 7080565  |        |           |                |                |               |               |         |
| A7H0255-01      | Soil   | EPA 6020A | 08/08/17 11:50 | 08/10/17 09:23 | 0.496g/50mL   | 0.5g/50mL     | 1.01    |

### Percent Dry Weight

| Prep: Total Solids (Dry Weight) |        |           |                |                | Sample        | Default       | RL Prep |
|---------------------------------|--------|-----------|----------------|----------------|---------------|---------------|---------|
| Lab Number                      | Matrix | Method    | Sampled        | Prepared       | Initial/Final | Initial/Final | Factor  |
| Batch: 7080529                  |        |           |                |                |               |               |         |
| A7H0255-01                      | Soil   | EPA 8000C | 08/08/17 11:50 | 08/09/17 13:45 | 1N/A/1N/A     | 1N/A/1N/A     | NA      |

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Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## Notes and Definitions

### Qualifiers:

- B-02 Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- J Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-04 Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-05 Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- R-04 Reporting levels elevated due to dilution necessary for analysis.
- S-01 Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to  $\frac{1}{2}$  the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax



NWFF

PO Box 188

Philomath, OR 97370

Project: 095

Project Number: 095

Project Manager: Ross McMakin

Reported:

08/12/17 06:23

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

\*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory*

DRAFT REPORT, DATA SUBJECT TO CHANGE

Page 20 of 22



# Apex Labs

Polk County Public Works  
Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

(82)

NWFF  
PO Box 188  
Philomath, OR 97370

Project: 095  
Project Number: 095  
Project Manager: Ross McMakin

Reported:  
08/12/17 06:23

## APEX LABS COOLER RECEIPT FORM

Client: NWFF Element WO#: A7 40255

Project/Project #: 095

### Delivery info:

Date/Time Received: 8/9/17 @ 842 By: (Signature)  
Delivered by: Apex ☒ Client ☒ ESS ☒ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐

Cooler Inspection Inspected by: (Signature) : 8/9/17 @ 842

Chain of Custody Included? Yes ☒ No ☐ Custody Seals? Yes ☐ No ☒

Signed/Dated by Client? Yes ☒ No ☐

Signed/Dated by Apex? Yes ☒ No ☐

| Cooler #1  | Cooler #2                   | Cooler #3                                   | Cooler #4                   | Cooler #5 | Cooler #6 | Cooler #7 |
|--|-----------------------------|---|-----------------------------|-----------|-----------|-----------|
| Temperature (deg. C) <u>4.8</u>  |                             |   |                             |           |           |           |
| Received on Ice? <input checked="" type="checkbox"/> (Y/N)   |                             |   |                             |           |           |           |
| Temp. Blanks? <input checked="" type="checkbox"/> (Y/N)  |                             |   |                             |           |           |           |
| Ice Type: <input checked="" type="checkbox"/> Gel <input type="checkbox"/> Real <input type="checkbox"/> Other   |                             |   |                             |           |           |           |
| Condition: <u>good</u>   |                             |   |                             |           |           |           |
| Cooler out of temp? <input checked="" type="checkbox"/> (Y/N) Possible reason why:   |                             |   |                             |           |           |           |
| If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA  |                             |   |                             |           |           |           |
| Samples Inspection Inspected by: <u>(Signature)</u> : <u>8/9/17 @ 925</u>  |                             |   |                             |           |           |           |
| All Samples Intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:  |                             |   |                             |           |           |           |
| Bottle Labels/COCs agree? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:  |                             |   |                             |           |           |           |
| Containers/Volumes Received Appropriate for Analysis? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Comments:                      |                             |   |                             |           |           |           |
| Do VOA Vials have Visible Headspace? Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>                     |                             |   |                             |           |           |           |
| Comments:  |                             |   |                             |           |           |           |
| Water Samples: pH Checked and Appropriate (except VOAs): Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> |                             |   |                             |           |           |           |
| Comments:  |                             |   |                             |           |           |           |
| Additional Information:  |                             |   |                             |           |           |           |
| Labeled by: <u>(Signature)</u>   | Witness: <u>(Signature)</u> | Cooler Inspected by: <u>Client unloaded</u> | See Project Contact Form: Y |           |           |           |

DRAFT REPORT

The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory

DRAFT REPORT, DATA SUBJECT TO CHANGE



Centers for Disease  
Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

Polk County Public Works  
Y6318-012-17



Promoting productive workplaces  
through safety and health research



(/niosh/index.htm)

## SULFOTEP

ICSC: 0985

Thiodiphosphoric acid tetraethyl ester  
Ethyl thiopyrophosphate  
Tetraethyl dithiopyrophosphate (TEDP)  
 $C_8H_{20}O_5P_2S_2$  /  $(C_2H_5O)_2P(S)OP(S)(OC_2H_5)_2$   
Molecular mass: 322.30  
ICSC # 0985



CAS # 3689-24-5  
RTECS # XN4375000  
UN # 1704  
EC # 015-027-00-3  
October 18, 1999 Validated

| TYPES OF<br>HAZARD/<br>EXPOSURE | ACUTE HAZARDS/<br>SYMPTOMS   | PREVENTION   | FIRST AID/<br>FIRE FIGHTING   |
|---------------------------------|--|--|---|
| FIRE                            | Combustible. Gives off irritating or toxic fumes (or gases) in a fire.   | NO open flames.  | Water spray, foam, powder, carbon dioxide.  |
| EXPLOSION                       | Container may explode violently in heat of fire.   |  | In case of fire: keep drums, etc., cool by spraying with water.                     |
| EXPOSURE                        |  | STRICT HYGIENE!<br>AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN! | IN ALL CASES CONSULT A DOCTOR!  |
| • INHALATION                    | Blue skin. Dizziness. Drowsiness. Headache. Pupillary constriction, muscle cramp, excessive salivation. Sweating. Laboured breathing. Nausea. Convulsions. Unconsciousness. Weakness. See Ingestion. | Ventilation, local exhaust, or breathing protection.           | Fresh air, rest. Artificial respiration may be needed. Refer for medical attention. |



Polk County Public Works  
Y6318-012-17

| •SKIN  | MAY BE ABSORBED!<br>Redness. Sweating and twitching in the area of absorption. (Further see Inhalation). | Protective gloves.<br>Protective clothing.  | Rinse and then wash skin with water and soap. Refer for medical attention.  |
|--|--|---|---|
| •EYES  | Redness. Pain. Pupillary constriction.   | Face shield or eye protection in combination with breathing protection.   | First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.   |
| •INGESTION   | Abdominal cramps.<br>Confusion. Diarrhoea.<br>Vomiting. Loss of appetite. (Further see Inhalation).      | Do not eat; drink, or smoke during work. Wash hands before eating.  | Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.  |
| SPILLAGE DISPOSAL  |  | STORAGE   | PACKAGING & LABELLING   |
| Ventilation. Collect leaking liquid in sealable containers. Absorb remaining liquid in dry sand or inert absorbent and remove to safe place. Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. |  | Dry. Well closed. Separated from strong oxidants, food and feedstuffs. Keep in a well-ventilated room. Do not store in metal containers. Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.   | Do not transport with food and feedstuffs.<br>Marine pollutant.<br>T+ symbol<br>N symbol<br>R: 27/28-50/53<br>S: 1/2-23-28-36/37-45-60-61<br>UN Hazard Class: 6.1<br>UN Packing Group: II |
| ICSC: 0985   |  | Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values. |   |

SULFOTEP

ICSC: 0985

|   |  |  |
|---|--|--|
| <p>I<br/>M<br/>P<br/>O<br/>R<br/>T<br/>A<br/>N<br/>T<br/><br/>D<br/>A<br/>T<br/>A</p> | <p><b>PHYSICAL STATE; APPEARANCE:</b><br/>PALE YELLOW LIQUID , WITH CHARACTERISTIC ODOUR.</p> <p><b>PHYSICAL DANGERS:</b></p> <p><b>CHEMICAL DANGERS:</b><br/>The substance decomposes on heating producing highly toxic fumes of phosphorous oxides and sulfur oxides . Reacts with strong oxidants. Attacks iron, some forms of plastic, rubber and coatings.</p> <p><b>OCCUPATIONAL EXPOSURE LIMITS:</b><br/>OSHA PEL: TWA 0.2 mg/m<sup>3</sup> skin<br/>NIOSH REL: TWA 0.2 mg/m<sup>3</sup> skin<br/>NIOSH IDLH: 10 mg/m<sup>3</sup> See: 89245<br/>TLV: (inhalable fraction &amp; vapour) 0.1 mg/m<sup>3</sup> as TWA; (skin); A4 (not classifiable as a human carcinogen); BEI issued; (ACGIH 2008).<br/>EU OEL: 0.1 mg/m<sup>3</sup>; (skin); (EU 2000.</p> | <p><b>ROUTES OF EXPOSURE:</b><br/>The substance can be absorbed into the body by inhalation, through the skin and by ingestion.</p> <p><b>INHALATION RISK:</b><br/>A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.</p> <p><b>EFFECTS OF SHORT-TERM EXPOSURE:</b><br/>The substance is irritating to the eyes and the skin . The substance may cause effects on the nervous system , resulting in convulsions, respiratory failure. Cholinesterase inhibitor. Exposure far above the OEL may result in death. The effects may be delayed. Medical observation is indicated.</p> <p><b>EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:</b><br/>Cholinesterase inhibitor; cumulative effect is possible: see acute hazards/symptoms.</p> |
| <p><b>PHYSICAL PROPERTIES</b></p>   | <p>Boiling point at 0.2666 kPa: 136-139°C<br/>Relative density (water = 1): 1.2<br/>Solubility in water: none</p>  | <p>Vapour pressure, Pa at 20°C: 0.0226<br/>Octanol/water partition coefficient as log Pow: 3.99</p>  |

|   |  |   |   |
|---|--|---|---|
| <b>ENVIRONMENTAL<br/>DATA</b>   | The substance is very toxic to aquatic organisms. This substance does enter the environment under normal use. Great care, however, should be given to avoid any additional release, e.g. through inappropriate disposal.   |  |  |
| <b>NOTES</b>  |  | Polk County Public Works<br>Y6318-012-17  |   |
| <p>Depending on the degree of exposure, periodic medical examination is suggested. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Technical grade is a dark-coloured liquid, boiling point 131-132°C at 0.267 kPa. Do NOT take working clothes home. ASP 47, Bay-E-393, Bladafum, Dithion, Dithiotep, Dithiofos are trade names. Card has been partly updated in October 2004 and 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.</p> <p style="text-align: right;">Transport Emergency Card: TEC (R)-61GT2-II</p> <p>Card has been partially updated in November 2008: see Occupational Exposure Limits,</p> |  |   |   |
| <b>ADDITIONAL INFORMATION</b>   |  |   |   |
|   |  |   |   |
| <b>ICSC: 0985</b>   |  | <b>SULFOTEP</b>   |   |
| (C) IPCS, CEC, 1994   |  |   |   |
| <b>IMPORTANT LEGAL NOTICE:</b>  | <p>Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.</p> |   |   |

Page last reviewed: July 22, 2015

Page last updated: July 1, 2014

Content source: National Institute for Occupational Safety and Health (<https://www.cdc.gov/NIOSH/>)

**COOKE Garnet R \* DCBS**

---

**From:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>  
**Sent:** Wednesday, August 23, 2017 1:08 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** Fwd: OERS# 2017-3436 / Polk Co

Polk County Public Works  
Y6318-012-17

(87)

Begin forwarded message:

**From:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>  
**Subject:** Fwd: OERS# 2017-3436 / Polk Co  
**Date:** August 22, 2017 at 11:40:14 AM PDT  
**To:** Michael Odenthal <[modenthal@oda.state.or.us](mailto:modenthal@oda.state.or.us)>

Begin forwarded message:

**From:** FELDON Leah <[leah.feldon@state.or.us](mailto:leah.feldon@state.or.us)>  
**Subject:** RE: OERS# 2017-3436 / Polk Co  
**Date:** August 17, 2017 at 4:16:27 PM PDT  
**To:** 'BROWN Geoff' <[geoff.brown@state.or.us](mailto:geoff.brown@state.or.us)>, 'Alexis M Taylor' <[ataylor@oda.state.or.us](mailto:ataylor@oda.state.or.us)>, 'GILLES Bruce A' <[bruce.a.gilles@state.or.us](mailto:bruce.a.gilles@state.or.us)>, HANSON Don <[don.hanson@state.or.us](mailto:don.hanson@state.or.us)>, 'FELDON Leah' <[leah.feldon@state.or.us](mailto:leah.feldon@state.or.us)>, 'Linda Hayes Gormsn' <[linda.hayes-gorman@state.or.us](mailto:linda.hayes-gorman@state.or.us)>, 'Theodore R Bunch Jr' <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>, HANSON Lisa R <[Lisa.R.Hanson@state.or.us](mailto:Lisa.R.Hanson@state.or.us)>  
**Cc:** MASTROS David <[david.j.mastros@state.or.us](mailto:david.j.mastros@state.or.us)>, 'VAN-PATTEN Kimberlee' <[kimberlee.van-patten@state.or.us](mailto:kimberlee.van-patten@state.or.us)>, 'SAWKA Nancy' <[nancy.sawka@state.or.us](mailto:nancy.sawka@state.or.us)>, '"olson.neal@polk1.org"' <[olson.neal@polk1.org](mailto:olson.neal@polk1.org)>, '"pestx@oda.state.or.us"' <[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)>, BUNCH Theodore R <[Theodore.R.Bunch@state.or.us](mailto:Theodore.R.Bunch@state.or.us)>, '"Whitaker, Todd"' <[whitaker.todd@co.polk.or.us](mailto:whitaker.todd@co.polk.or.us)>

Thanks, Geoff. Adding Lisa Hanson, ODA.

Leah K. Feldon  
Deputy Director  
Oregon Department of Environmental Quality

*Executive Assistant: Stacey O'Neil*  
[o'neil.stacey@deq.state.or.us](mailto:o'neil.stacey@deq.state.or.us)

---

**From:** BROWN Geoff [<mailto:geoff.brown@state.or.us>]  
**Sent:** Thursday, August 17, 2017 2:28 PM  
**To:** 'Alexis M Taylor'; 'GILLES Bruce A'; HANSON Don; BROWN Geoff; 'FELDON Leah'; 'Linda Hayes Gormsn'; 'Theodore R Bunch Jr'  
**Cc:** MASTROS David; 'BROWN Geoff'; 'VAN-PATTEN Kimberlee'; 'SAWKA Nancy'; '[olson.neal@polk1.org](mailto:olson.neal@polk1.org)'; '[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)'; BUNCH Theodore R; 'Whitaker, Todd'  
**Subject:** RE: OERS# 2017-3436 / Polk Co

Yesterday our contractor scraped the surface soils that were affected by this pesticide release, which secured the site so people can't casually come into contact with the pesticides, however additional work needs to be done to secure the site for the long term.

The affected area is immediately downstream from a road crossing culvert. The release was initially discovered when maintenance workers began jet-rodding the culvert to clean it out. When they started up the jet rod, pesticide dust/powder emerged from the end of the culvert. So in addition to the contamination we cleaned up from the ditch-line soil, there is also likely pesticide inside the culvert. In order to make sure that we don't have a problem when it rains and the roadside ditch starts flowing, we need to clean out the culvert. So DEQ's contractor NRC will be cleaning out the culvert next week by jetrodding it and recovering the jet rod residue/liquids. After the culvert is cleaned out, they will sample soil downstream and upstream of the culvert to make sure the cleanup was complete. Please let me know if you have any questions.

88

Geoff Brown  
State On-Scene Coordinator  
Oregon DEQ  
541-686-7819

---

**From:** BROWN Geoff  
**Sent:** Wednesday, August 16, 2017 4:31 PM  
**To:** Linda Hayes Gormsn; GILLES Bruce A; FELDON Leah; Theodore R Bunch Jr; Alexis M Taylor; HANSON Don  
**Cc:** '[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)'; BUNCH Theodore R; 'BROWN Geoff'; 'VAN-PATTEN Kimberlee'; SAWKA Nancy; MASTROS David  
**Subject:** RE: OERS# 2017-3436 / Polk Co

Our contractor, NRC, responded and assessed the scene earlier today. Based on their reported observations, the spill/dump area was pretty small. They cleaned up the spilled material and surrounding soil, bagged it up and transported it back to their facility for characterization and disposal. We will be conferring internally tomorrow about the need for any additional work or sampling.

Geoff Brown  
State On-Scene Coordinator  
Oregon DEQ  
541-686-7819

**From:** GILLES Bruce A  
**Sent:** Wednesday, August 16, 2017 4:24 PM  
**To:** 'Lisa Hanson'; Linda Hayes Gormsn  
**Cc:** GILLES Bruce A; FELDON Leah; Theodore R Bunch Jr; Alexis M Taylor; HANSON Don; BROWN Geoff  
**Subject:** RE: OERS 2017-2436 Polk Co.

Lisa,  
DEQ dispatched our contractor to clean up the spill this morning. Geoff Brown from our Eugene office has been in contact with the contractor and will send a follow up to this email with status of our response work.  
Thanks  
Bruce

Bruce Gilles, Manager

**Department of Environmental Quality**  
Cleanup and Emergency Response Program  
Operations Division, Headquarters  
700 NE Multnomah Street, Suite 600  
Portland, OR 97232-4100

Polk County Public Works  
Y6318-012-17



Phone: (503) 229-6391

Cell: (971) 246-2300

**From:** Lisa Hanson [mailto:lhanson@oda.state.or.us]

**Sent:** Wednesday, August 16, 2017 4:08 PM

**To:** Linda Hayes Gormsn <Linda.Hayes-GORMAN@state.or.us>

**Cc:** GILLES Bruce A <bruce.a.gilles@state.or.us>; FELDON Leah <leah.feldon@state.or.us>; Theodore R Bunch Jr <tbunch@oda.state.or.us>; Alexis M Taylor <ataylor@oda.state.or.us>

**Subject:** Re: OERS 2017-2436 Polk Co.

Thank you for the information. Please let us know what we can do to stay coordinated.

On Aug 16, 2017, at 4:02 PM, HAYES-GORMAN Linda <Linda.Hayes-GORMAN@state.or.us> wrote:

DEQ dispatched NRC this morning to clean up the pesticide spill. Bruce will check on status and get back to us.

**From:** HAYES-GORMAN Linda [mailto:linda.hayes-gorman@state.or.us]

**Sent:** Wednesday, August 16, 2017 3:56 PM

**To:** 'Lisa Hanson' <lhanson@oda.state.or.us>; Linda Hayes Gormsn <linda.hayes-gorman@state.or.us>; FELDON Leah <leah.feldon@state.or.us>

**Subject:** RE: OERS 2017-2436 Polk Co.

Thanks for sharing.

I just spoke with Keith Andersen (WR admin) he is tracking down his cleanup lead Don Hanson to see what he knows.

- 1) is the area cordoned off so it is safe,
- 2) has there been any cleanup/is it planned, and
- 3) we need a shared agency understanding of what happened and what will happen.

I will try our HQ folks again whose names I saw on the email exchange.

**From:** Lisa Hanson [mailto:lhanson@oda.state.or.us]

**Sent:** Wednesday, August 16, 2017 3:46 PM

**To:** Linda Hayes Gormsn <linda.hayes-gorman@state.or.us>; FELDON Leah <leah.feldon@state.or.us>

**Subject:** Fwd: OERS 2017-2436 Polk Co.

first one

Begin forwarded message:

**From:** Dale Mitchell <[dmitchell@oda.state.or.us](mailto:dmitchell@oda.state.or.us)>

**Subject:** Fwd: OERS 2017-2436 Polk Co.

**Date:** August 15, 2017 at 4:58:07 PM PDT

**To:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>

**Cc:** Lisa R Hanson <[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)>, Lauren Henderson <[lhenderson@oda.state.or.us](mailto:lhenderson@oda.state.or.us)>, Brian BOLING <[Brian.BOLING@state.or.us](mailto:Brian.BOLING@state.or.us)>, [kimberlee.van-patten@state.or.us](mailto:kimberlee.van-patten@state.or.us)

90

Ted,

You may have already received this ORES report. Pesticides Program, Mike and I are receiving call about how to coordinate. Kimberly Van Patton from DEQ also contacted me. OROSHA has referred to PARC. A PARC coordination call need to be scheduled First thing in morning. Incident occurred August 7, 2017, and just reported to ORES.

With three individuals already affected a HasMat team may be needed to evaluate site. ODA staff are not trained on Spill response & cleanup.

If we need to discuss tonight let me know.

Dale M.

Begin forwarded message:

**From:** "Staff, Oers" <[oers.staff@state.or.us](mailto:oers.staff@state.or.us)>

**Subject:** FW: OERS 2017-2436 Polk Co.

**Date:** August 15, 2017 at 4:37:00 PM PDT

**To:** MITCHELL Dale L <[Dale.L.Mitchell@state.or.us](mailto:Dale.L.Mitchell@state.or.us)>

From: Staff, Oers

Sent: Tuesday, August 15, 2017 4:03 PM

To: OHD DUTY Officer ; [duty-officers@oda.state.or.us](mailto:duty-officers@oda.state.or.us)

Subject: OERS 2017-2436 Polk Co.

Polk Co. PW reported the discovery of a pesticide spill on 08/07/17.

[[cid:image003.jpg@01D315E4.B7D5B840](#)]

Tracie Long

Duty Officer

Oregon Office of Emergency Management

Email: [OERS.Staff@state.or.us](mailto:OERS.Staff@state.or.us) <<mailto:OERS.Staff@state.or.us>>

Phone: (503) 378-6377

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91

*Lisa Hanson*  
[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)

*Lisa Hanson*  
[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)

**COOKE Garnet R \* DCBS**

**From:** Theodore R Bunch Jr <tbunch@oda.state.or.us>  
**Sent:** Wednesday, August 23, 2017 1:31 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** Fwd: OERS# 2017-3436 / Polk Co  
**Attachments:** Incident Order 17-06 OERS#2436\_FullyExecuted.pdf

(92)

Begin forwarded message:

**From:** VAN-PATTEN Kimberlee <[kimberlee.van-patten@state.or.us](mailto:kimberlee.van-patten@state.or.us)>  
**Subject:** RE: OERS# 2017-3436 / Polk Co  
**Date:** August 16, 2017 at 3:57:40 PM PDT  
**To:** SAWKA Nancy <[nancy.sawka@state.or.us](mailto:nancy.sawka@state.or.us)>  
**Cc:** "[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)" <[pestx@oda.state.or.us](mailto:pestx@oda.state.or.us)>, BUNCH Theodore R <[Theodore.R.Bunch@state.or.us](mailto:Theodore.R.Bunch@state.or.us)>, 'BROWN Geoff' <[geoff.brown@state.or.us](mailto:geoff.brown@state.or.us)>

Dave Mastros sent NRC Environmental Services out to cleanup the spill today. I don't know anything more than that. Geoff Brown said he was going to touch base with NRCES earlier today. He might have more information. No need to log in complaints as it was handled in spills.

Kimberlee

---

**From:** SAWKA Nancy  
**Sent:** Wednesday, August 16, 2017 3:24 PM  
**To:** VAN-PATTEN Kimberlee  
**Subject:** FW: OERS# 2017-3436 / Polk Co

Hi Kimberlee – Ted Bunch forwarded this to me and was asking if DEQ was going to respond. Should I be logging this as a complaint or will OERs be responding and then contacting spills? Not sure of the process for this one especially since it's a pesticide.

Thanks - Nancy

**From:** Theodore R Bunch Jr [<mailto:tbunch@oda.state.or.us>]  
**Sent:** Wednesday, August 16, 2017 3:05 PM  
**To:** SAWKA Nancy <[nancy.sawka@state.or.us](mailto:nancy.sawka@state.or.us)>  
**Subject:** Fwd: OERS# 2017-3436 / Polk Co

Begin forwarded message:

**From:** VAN-PATTEN Kimberlee <[kimberlee.van-patten@state.or.us](mailto:kimberlee.van-patten@state.or.us)>  
**Subject:** FW: OERS# 2017-3436 / Polk Co  
**Date:** August 15, 2017 at 4:28:21 PM PDT

To: BUNCH Theodore R <[Theodore.R.Bunch@state.or.us](mailto:Theodore.R.Bunch@state.or.us)>

Polk County Public Works  
Y6318-012-17

I got an "undeliverable" on my first attempt. ☹

93

**From:** VAN-PATTEN Kimberlee

**Sent:** Tuesday, August 15, 2017 4:20 PM

**To:** 'pestx@oda.state.or.us'; BUNCH Theodore R

**Cc:** MASTROS David

**Subject:** FW: OERS# 2017-3436 / Polk Co

Thanks for your assistance. Please let us know how we can help.

Kimberlee Van Patten  
Duty Officer ~ Emergency Response Program  
Oregon Dept. of Environmental Quality  
503-229-5256 office  
971-563-8034 cell  
700 NE Multnomah St., Suite #1400  
Portland, OR 97232

**From:** STAFF Oers

**Sent:** Tuesday, August 15, 2017 4:02 PM

**To:** DOSPILLS; DREHER DAVID M; DUTY-OFFICER PHP; Folsom, Jamaal; Giffin, Sandy; GRIFFIN Dennis  
\* OPRD; HUBBELL Raymond K; Kuenzi, Chris; martenson, eric; Ron Modjeski ([modjeski.ronald@epa.gov](mailto:modjeski.ronald@epa.gov));  
Szumski, Mike

**Subject:** OERS# 2017-3436 / Polk Co

Polk Co. PW reported the discovery of a pesticide spill on 08/07/17.



Keelyn Fawcett  
CJIS Specialist | Information Technology  
Oregon State Police  
Email: [Helpdesk.LEDS@state.or.us](mailto:Helpdesk.LEDS@state.or.us)  
Phone: (503) 378-5565

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## COOKE Garnet R \* DCBS

---

**From:** Theodore R Bunch Jr <tbunch@oda.state.or.us>  
**Sent:** Wednesday, August 23, 2017 1:42 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** Fwd: OERS# 2017-3436 / Polk Co

Polk County Public Works  
Y6318-012-17

94

Begin forwarded message:

**From:** BROWN Geoff <geoff.brown@state.or.us>  
**Subject:** RE: OERS# 2017-3436 / Polk Co  
**Date:** August 17, 2017 at 2:28:14 PM PDT  
**To:** 'Alexis M Taylor' <ataylor@oda.state.or.us>, 'GILLES Bruce A' <bruce.a.gilles@state.or.us>, HANSON Don <don.hanson@state.or.us>, BROWN Geoff <geoff.brown@state.or.us>, 'FELDON Leah' <leah.feldon@state.or.us>, 'Linda Hayes Gormsn' <linda.hayes-gorman@state.or.us>, 'Theodore R Bunch Jr' <tbunch@oda.state.or.us>  
**Cc:** MASTROS David <david.j.mastros@state.or.us>, 'BROWN Geoff' <geoff.brown@state.or.us>, 'VAN-PATTEN Kimberlee' <kimberlee.van-patten@state.or.us>, 'SAWKA Nancy' <nancy.sawka@state.or.us>, "'olson.neal@polk1.org'" <olson.neal@polk1.org>, "'pestx@oda.state.or.us'" <pestx@oda.state.or.us>, BUNCH Theodore R <theodore.r.bunch@state.or.us>, "'Whitaker, Todd'" <whitaker.todd@co.polk.or.us>

Yesterday our contractor scraped the surface soils that were affected by this pesticide release, which secured the site so people can't casually come into contact with the pesticides, however additional work needs to be done to secure the site for the long term.

The affected area is immediately downstream from a road crossing culvert. The release was initially discovered when maintenance workers began jet-rodding the culvert to clean it out. When they started up the jet rod, pesticide dust/powder emerged from the end of the culvert. So in addition to the contamination we cleaned up from the ditch-line soil, there is also likely pesticide inside the culvert. In order to make sure that we don't have a problem when it rains and the roadside ditch starts flowing, we need to clean out the culvert. So DEQ's contractor NRC will be cleaning out the culvert next week by jetrodding it and recovering the jet rod residue/liquids. After the culvert is cleaned out, they will sample soil downstream and upstream of the culvert to make sure the cleanup was complete. Please let me know if you have any questions.

Geoff Brown  
State On-Scene Coordinator  
Oregon DEQ  
541-686-7819

---

**From:** BROWN Geoff  
**Sent:** Wednesday, August 16, 2017 4:31 PM  
**To:** Linda Hayes Gormsn; GILLES Bruce A; FELDON Leah; Theodore R Bunch Jr; Alexis M Taylor; HANSON Don

**Cc:** 'pestx@oda.state.or.us'; BUNCH Theodore R; 'BROWN Geoff'; 'VAN-PATTEN Kimberlee'; SAWKA Nancv: MASTROS David

**Subject:** RE: OERS# 2017-3436 / Polk Co

Polk County Public Works  
Y6318-012-17

Our contractor, NRC, responded and assessed the scene earlier today. Based on their reported observations, the spill/dump area was pretty small. They cleaned up the spilled material and surrounding soil, bagged it up and transported it back to their facility for characterization and disposal. We will be conferring internally tomorrow about the need for any additional work or sampling. (95)

Geoff Brown  
State On-Scene Coordinator  
Oregon DEQ  
541-686-7819

**From:** GILLES Bruce A

**Sent:** Wednesday, August 16, 2017 4:24 PM

**To:** 'Lisa Hanson'; Linda Hayes Gormsn

**Cc:** GILLES Bruce A; FELDON Leah; Theodore R Bunch Jr; Alexis M Taylor; HANSON Don; BROWN Geoff

**Subject:** RE: OERS 2017-2436 Polk Co.

Lisa,

DEQ dispatched our contractor to clean up the spill this morning. Geoff Brown from our Eugene office has been in contact with the contractor and will send a follow up to this email with status of our response work.

Thanks

Bruce

*Bruce Gilles, Manager*

**Department of Environmental Quality**

Cleanup and Emergency Response Program

Operations Division, Headquarters

700 NE Multnomah Street, Suite 600

Portland, OR 97232-4100

*Phone: (503) 229-6391*

*Cell: (971) 246-2300*

**From:** Lisa Hanson [mailto:lhanson@oda.state.or.us]

**Sent:** Wednesday, August 16, 2017 4:08 PM

**To:** Linda Hayes Gormsn <Linda.Hayes-GORMAN@state.or.us>

**Cc:** GILLES Bruce A <bruce.a.gilles@state.or.us>; FELDON Leah <leah.feldon@state.or.us>; Theodore R Bunch Jr <tbunch@oda.state.or.us>; Alexis M Taylor <ataylor@oda.state.or.us>

**Subject:** Re: OERS 2017-2436 Polk Co.

Thank you for the information. Please let us know what we can do to stay coordinated.

On Aug 16, 2017, at 4:02 PM, HAYES-GORMAN Linda <Linda.Hayes-GORMAN@state.or.us> wrote:

DEQ dispatched NRC this morning to clean up the pesticide spill. Bruce will check on status and get back to us.

**From:** HAYES-GORMAN Linda [<mailto:linda.hayes-gorman@state.or.us>]

**Sent:** Wednesday, August 16, 2017 3:56 PM

**To:** 'Lisa Hanson' <[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)>; Linda Hayes Gormsn <[linda.hayes-gorman@state.or.us](mailto:linda.hayes-gorman@state.or.us)>; FELDON Leah <[leah.feldon@state.or.us](mailto:leah.feldon@state.or.us)>

**Subject:** RE: OERS 2017-2436 Polk Co.

Polk County Public Works  
Y6318-012-17

(96)

Thanks for sharing.

I just spoke with Keith Andersen (WR admin) he is tracking down his cleanup lead Don Hanson to see what he knows.

- 1) is the area cordoned off so it is safe,
- 2) has there been any cleanup/is it planned, and
- 3) we need a shared agency understanding of what happened and what will happen.

I will try our HQ folks again whose names I saw on the email exchange.

**From:** Lisa Hanson [<mailto:lhanson@oda.state.or.us>]

**Sent:** Wednesday, August 16, 2017 3:46 PM

**To:** Linda Hayes Gormsn <[linda.hayes-gorman@state.or.us](mailto:linda.hayes-gorman@state.or.us)>; FELDON Leah <[leah.feldon@state.or.us](mailto:leah.feldon@state.or.us)>

**Subject:** Fwd: OERS 2017-2436 Polk Co.

first one

Begin forwarded message:

**From:** Dale Mitchell <[dmitchell@oda.state.or.us](mailto:dmitchell@oda.state.or.us)>

**Subject:** Fwd: OERS 2017-2436 Polk Co.

**Date:** August 15, 2017 at 4:58:07 PM PDT

**To:** Theodore R Bunch Jr <[tbunch@oda.state.or.us](mailto:tbunch@oda.state.or.us)>

**Cc:** Lisa R Hanson <[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)>, Lauren Henderson <[lhenderson@oda.state.or.us](mailto:lhenderson@oda.state.or.us)>, Brian BOLING <[Brian.BOLING@state.or.us](mailto:Brian.BOLING@state.or.us)>, kimberlee.van-patten@state.or.us

Ted,

You may have already received this ORES report. Pesticides Program, Mike and I are receiving call about how to coordinate. Kimberly Van Patton from DEQ also contacted me. OROSHA has referred to PARC. A PARC coordination call need to be scheduled First thing in morning. Incident occurred August 7, 2017, and just reported to ORES.

With three individuals already affected a HasMat team may be needed to evaluate site. ODA staff are not trained on Spill response & cleanup.

If we need to discuss tonight let me know.

Dale M.

Begin forwarded message:

**From:** "Staff, Oers" <[oers.staff@state.or.us](mailto:oers.staff@state.or.us)>

**Subject: FW: OERS 2017-2436 Polk Co.**  
**Date:** August 15, 2017 at 4:37:00 PM PDT  
**To:** MITCHELL Dale L <[Dale.L.Mitchell@state.or.us](mailto:Dale.L.Mitchell@state.or.us)>

Polk County Public Works  
Y6318-012-17

(97)

From: Staff, Oers  
Sent: Tuesday, August 15, 2017 4:03 PM  
To: OHD DUTY Officer ; [duty-officers@oda.state.or.us](mailto:duty-officers@oda.state.or.us)  
Subject: OERS 2017-2436 Polk Co.

Polk Co. PW reported the discovery of a pesticide spill on 08/07/17.

[[cid:image003.jpg@01D315E4.B7D5B840](#)]

Tracie Long  
Duty Officer  
Oregon Office of Emergency Management  
Email: [OERS.Staff@state.or.us](mailto:OERS.Staff@state.or.us) <<mailto:OERS.Staff@state.or.us>>  
Phone: (503) 378-6377

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*Lisa Hanson*  
[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)

*Lisa Hanson*  
[lhanson@oda.state.or.us](mailto:lhanson@oda.state.or.us)

**COOKE Garnet R \* DCBS**

**From:** BROWN Geoff <geoff.brown@state.or.us>  
**Sent:** Wednesday, September 06, 2017 3:17 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** RE: 117041----partial draft report--A7H0678  
**Attachments:** 117041 Sample.jpg

98

Yes. The green sample was sent to another lab. I don't have results for it yet. I'm also not sure if DEQ is going to conduct more work or not, I may have NRC do some shovel work over the top of the culvert and beneath the culvert where the muddy area is and sample the water.

---

**From:** COOKE Garnet R \* DCBS [<mailto:Garnet.R.Cooke@oregon.gov>]  
**Sent:** Wednesday, September 06, 2017 3:12 PM  
**To:** BROWN Geoff  
**Subject:** RE: 117041----partial draft report--A7H0678

Hi Geoff,

Thanks. Do you know which sample was taken where? Were these taken after the jet rodding? And if so, was the water collected sampled? Also, the green stuff sample went to another lab, right?

Thanks for your help on this!

Garnet

---

**From:** BROWN Geoff [<mailto:geoff.brown@state.or.us>]  
**Sent:** Wednesday, September 06, 2017 2:38 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** FW: 117041----partial draft report--A7H0678

Good timing. I just received the results from NRC. The results are orders of magnitude lower than the initial samples, with one of three samples containing chlorpyrifos at 101 ppm, somewhat above EPA's risk based screening level for residential receptors (which is 63 ppm), which is based on a 30-year residential exposure. It is also above the leaching to protect groundwater screening level, which would apply if the release was very close to a residential drinking water well.

---

**From:** Geigle, Roman [<mailto:RGeigle@nrcc.com>]  
**Sent:** Wednesday, September 06, 2017 11:56 AM  
**To:** DEQ Geoff Brown ([geoff.brown@state.or.us](mailto:geoff.brown@state.or.us))  
**Subject:** FW: 117041----partial draft report--A7H0678

Photos to follow

Roman Geigle  
Portland Emergency Response Manager

-----  
NRC  
[www.nrcc.com](http://www.nrcc.com) | [rgeigle@nrcc.com](mailto:rgeigle@nrcc.com)

**From:** Darrell Auvil [<mailto:DAuvil@Apex-Labs.com>]  
**Sent:** Wednesday, September 6, 2017 10:51 AM  
**To:** Geigle, Roman <[RGeigle@nrcc.com](mailto:RGeigle@nrcc.com)>  
**Cc:** Darwin Thomas <[DThomas@Apex-Labs.com](mailto:DThomas@Apex-Labs.com)>  
**Subject:** 117041----partial draft report--A7H0678

Polk County Public Works  
Y6318-012-17

Hi Roman, see attached, updated report, with organophosphorus pesticides (OPPs).  
sample SS1 on page 7.

Note Chlorpyrifos data on

99

8151 herbicide data is still pending.

Regards, Darrell Auvil  
Project Manager  
[Dauvil@Apex-Labs.com](mailto:Dauvil@Apex-Labs.com)  
O: 503.718.2323  
M: 503.459.6522  
Hours of Operation: 7:30am – 6:30pm.M-F & Saturday 9am-Noon only.



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**COOKE Garnet R \* DCBS**

**From:** BROWN Geoff <geoff.brown@state.or.us>  
**Sent:** Wednesday, September 06, 2017 2:38 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** FW: 117041----partial draft report--A7H0678  
**Attachments:** A7H0678 partial DRAFT 09 06 17 1045---NRC---117041.pdf

(100)

Good timing. I just received the results from NRC. The results are orders of magnitude lower than the initial samples, with one of three samples containing chlorpyrifos at 101 ppm, somewhat above EPA's risk based screening level for residential receptors (which is 63 ppm), which is based on a 30-year residential exposure. It is also above the leaching to protect groundwater screening level, which would apply if the release was very close to a residential drinking water well.

---

**From:** Geigle, Roman [<mailto:RGeigle@nrcc.com>]  
**Sent:** Wednesday, September 06, 2017 11:56 AM  
**To:** DEQ Geoff Brown ([geoff.brown@state.or.us](mailto:geoff.brown@state.or.us))  
**Subject:** FW: 117041----partial draft report--A7H0678

Photos to follow

Roman Geigle  
Portland Emergency Response Manager

-----  
NRC  
[www.nrcc.com](http://www.nrcc.com) | [rgeigle@nrcc.com](mailto:rgeigle@nrcc.com)

**From:** Darrell Auvil [<mailto:DAuvil@Apex-Labs.com>]  
**Sent:** Wednesday, September 6, 2017 10:51 AM  
**To:** Geigle, Roman <[RGeigle@nrcc.com](mailto:RGeigle@nrcc.com)>  
**Cc:** Darwin Thomas <[DThomas@Apex-Labs.com](mailto:DThomas@Apex-Labs.com)>  
**Subject:** 117041----partial draft report--A7H0678

Hi Roman, see attached, updated report, with organophosphorus pesticides (OPPs). **Note Chlorpyrifos data on sample SS1 on page 7.**

8151 herbicide data is still pending.

Regards, Darrell Auvil  
Project Manager  
[DAuvil@Apex-Labs.com](mailto:DAuvil@Apex-Labs.com)

O: 503.718.2323

M: 503.459.6522

Hours of Operation: 7:30am – 6:30pm M-F & Saturday 9am-Noon only.



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Sample

101

cription for your map.

Polk County Public Works  
Y6318-012-17

Legend

📍 B

SS-1

SS-2

SS-4

SS-3

Earth

50 ft

**From:** BROWN Geoff <geoff.brown@state.or.us>  
**Sent:** Wednesday, September 20, 2017 9:12 AM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** FW: 117041----draft w/ herbicides---A7H0678  
**Attachments:** A7H0678 DRAFT 09 06 17 1045---NRC---117041---w.Sub.pdf

(102)

Here is what we have for that sample. I have asked NRC to look into why they only ran herbicides and if it's too late to get a more complete data set. . . .

---

**From:** Geigle, Roman [<mailto:RGeigle@nrcc.com>]  
**Sent:** Tuesday, September 12, 2017 4:53 PM  
**To:** DEQ Geoff Brown ([geoff.brown@state.or.us](mailto:geoff.brown@state.or.us))  
**Subject:** FW: 117041----draft w/ herbicides---A7H0678

This just in sample results for SS-4 green substance Page 23

Roman Geigle  
Portland Emergency Response Manager

-----  
NRC  
[www.nrcc.com](http://www.nrcc.com) | [rgeigle@nrcc.com](mailto:rgeigle@nrcc.com)

**From:** Darrell Auvil [<mailto:DAuvil@Apex-Labs.com>]  
**Sent:** Tuesday, September 12, 2017 12:13 PM  
**To:** Geigle, Roman <[RGeigle@nrcc.com](mailto:RGeigle@nrcc.com)>  
**Cc:** Darwin Thomas <[DThomas@Apex-Labs.com](mailto:DThomas@Apex-Labs.com)>  
**Subject:** 117041----draft w/ herbicides---A7H0678

Hello, herbicide data is now included.

Regards, Darrell Auvil  
Project Manager  
[Dauvil@Apex-Labs.com](mailto:Dauvil@Apex-Labs.com)

O: 503.718.2323

M: 503.459.6522

Hours of Operation: 7:30am – 6:30pm M-F & Saturday 9am-Noon only.



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**COOKE Garnet R \* DCBS**

103

**From:** BROWN Geoff <Geoff.BROWN@state.or.us>  
**Sent:** Tuesday, October 24, 2017 2:26 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** RE: 117041----partial draft report--A7H0678

Polk County Public Works  
Y6318-012-17

No. That was it.

**From:** COOKE Garnet R \* DCBS [<mailto:Garnet.R.Cooke@oregon.gov>]  
**Sent:** Tuesday, October 24, 2017 2:18 PM  
**To:** BROWN Geoff <Geoff.BROWN@state.or.us>  
**Subject:** RE: 117041----partial draft report--A7H0678

Hi Geoff,  
Was any more work or sampling done on this case?

Thanks,

Garnet

---

**From:** BROWN Geoff [<mailto:geoff.brown@state.or.us>]  
**Sent:** Wednesday, September 06, 2017 3:17 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** RE: 117041----partial draft report--A7H0678

Yes. The green sample was sent to another lab. I don't have results for it yet. I'm also not sure if DEQ is going to conduct more work or not, I may have NRC do some shovel work over the top of the culvert and beneath the culvert where the muddy area is and sample the water.

---

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Garnet

---

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**Sent:** Wednesday, September 06, 2017 2:38 PM  
**To:** COOKE Garnet R \* DCBS  
**Subject:** FW: 117041----partial draft report--A7H0678

104

Good timing. I just received the results from NRC. The results are orders of magnitude lower than the initial samples, with one of three samples containing chlorpyrifos at 101 ppm, somewhat above EPA's risk based screening level for residential receptors (which is 63 ppm), which is based on a 30-year residential exposure. It is also above the leaching to protect groundwater screening level, which would apply if the release was very close to a residential drinking water well.

---

**From:** Geigle, Roman [<mailto:RGeigle@nrcc.com>]  
**Sent:** Wednesday, September 06, 2017 11:56 AM  
**To:** DEQ Geoff Brown ([geoff.brown@state.or.us](mailto:geoff.brown@state.or.us))  
**Subject:** FW: 117041----partial draft report--A7H0678

Polk County Public Works  
Y6318-012-17

Photos to follow

Roman Geigle  
Portland Emergency Response Manager

-----  
NRC  
[www.nrcc.com](http://www.nrcc.com) | [rgeigle@nrcc.com](mailto:rgeigle@nrcc.com)

---

**From:** Darrell Auvil [<mailto:DAuvil@Apex-Labs.com>]  
**Sent:** Wednesday, September 6, 2017 10:51 AM  
**To:** Geigle, Roman <[RGeigle@nrcc.com](mailto:RGeigle@nrcc.com)>  
**Cc:** Darwin Thomas <[DThomas@Apex-Labs.com](mailto:DThomas@Apex-Labs.com)>  
**Subject:** 117041----partial draft report--A7H0678

Hi Roman, see attached, updated report, with organophosphorus pesticides (OPPs). **Note Chlorpyrifos data on sample SS1 on page 7.**

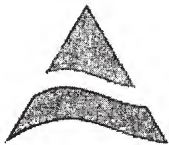
8151 herbicide data is still pending.

Regards, Darrell Auvil  
Project Manager  
[Dauvil@Apex-Labs.com](mailto:Dauvil@Apex-Labs.com)

O: 503.718.2323

M: 503.459.6522

Hours of Operation: 7:30am – 6:30pm M-F & Saturday 9am-Noon only.



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# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

105

Polk County Public Works  
Y6318-012-17

Wednesday, September 6, 2017

Roman Geigle  
NRC  
6211 N Ensign St  
Portland, OR 97217

RE: 117041 / 117041

Enclosed are the results of analyses for work order A7H0678, which was received by the laboratory on 8/24/2017 at 2:12:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [DAuvil@apex-labs.com](mailto:DAuvil@apex-labs.com), or by phone at 503-718-2323.

---

DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory*

---

DRAFT REPORT, DATA SUBJECT TO CHANGE

Report is complete only if it includes Calscience / Eurofins 8151 Data. Page 1 of 33

Page 1 of 21

09/12/2017

# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax



NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Polk County Public Works  
Y6318-012-17

Reported:  
09/06/17 10:45

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

| Sample ID | Laboratory ID | Matrix | Date Sampled   | Date Received  |
|-----------|---------------|--------|----------------|----------------|
| SS-1      | A7H0678-01    | Soil   | 08/23/17 10:05 | 08/24/17 14:12 |
| SS-2      | A7H0678-02    | Soil   | 08/23/17 10:11 | 08/24/17 14:12 |
| SS-3      | A7H0678-03    | Soil   | 08/23/17 10:16 | 08/24/17 14:12 |

DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory.*

DRAFT REPORT, DATA SUBJECT TO CHANGE

Report is complete only if it includes Calscience / Eurofins 8151 Data. Page 2 of 33

Page 2 of 21

09/12/2017

# Apex Labs

Polk County Public Works  
Y6318-012-17

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

107

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

## ANALYTICAL SAMPLE RESULTS

### Organochlorine Pesticides by EPA 8081B

| Analyte                        | Result | MDL | Reporting Limit     | Units            | Dilution              | Date Analyzed  | Method    | Notes       |
|--------------------------------|--------|-----|---------------------|------------------|-----------------------|----------------|-----------|-------------|
| <b>SS-1 (A7H0678-01RE1)</b>    |        |     | <b>Matrix: Soil</b> |                  | <b>Batch: 7081054</b> |                |           | <b>C-05</b> |
| Aldrin                         | ND     | --- | 6.06                | ug/kg dry        | I                     | 08/30/17 12:57 | EPA 8081B | R-02        |
| alpha-BHC                      | ND     | --- | 4.18                | "                | "                     | "              | "         | R-02        |
| beta-BHC                       | ND     | --- | 10.5                | "                | "                     | "              | "         | R-02        |
| delta-BHC                      | ND     | --- | 4.95                | "                | "                     | "              | "         | R-02        |
| gamma-BHC (Lindane)            | ND     | --- | 7.38                | "                | "                     | "              | "         | R-02        |
| cis-Chlordane                  | ND     | --- | 4.73                | "                | "                     | "              | "         | R-02        |
| trans-Chlordane                | ND     | --- | 6.94                | "                | "                     | "              | "         | R-02        |
| 4,4'-DDD                       | ND     | --- | 8.70                | "                | "                     | "              | "         | R-02        |
| 4,4'-DDE                       | 28.9   | --- | 2.20                | "                | "                     | "              | "         | Q-42        |
| 4,4'-DDT                       | ND     | --- | 14.2                | "                | "                     | "              | "         | R-02        |
| Dieldrin                       | ND     | --- | 3.74                | "                | "                     | "              | "         | R-02        |
| Endosulfan I                   | ND     | --- | 4.18                | "                | "                     | "              | "         | R-02        |
| Endosulfan II                  | ND     | --- | 5.17                | "                | "                     | "              | "         | R-02        |
| Endosulfan sulfate             | ND     | --- | 2.20                | "                | "                     | "              | "         |             |
| Endrin                         | ND     | --- | 8.37                | "                | "                     | "              | "         | R-02        |
| Endrin Aldehyde                | ND     | --- | 7.82                | "                | "                     | "              | "         | R-02        |
| Endrin ketone                  | ND     | --- | 2.20                | "                | "                     | "              | "         |             |
| Heptachlor                     | ND     | --- | 10.3                | "                | "                     | "              | "         | R-02        |
| Heptachlor epoxide             | ND     | --- | 10.2                | "                | "                     | "              | "         | R-02        |
| Methoxychlor                   | ND     | --- | 100                 | "                | "                     | "              | "         | R-02        |
| Chlordane (Technical)          | ND     | --- | 66.1                | "                | "                     | "              | "         |             |
| Toxaphene (Total)              | ND     | --- | 66.1                | "                | "                     | "              | "         |             |
| Surrogate: 2,4,5,6-TCMX (Surr) |        |     | Recovery: 57 %      | Limits: 42-129 % | "                     | "              | "         |             |
| Decachlorobiphenyl (Surr)      |        |     | 76 %                | Limits: 65-151 % | "                     | "              | "         |             |

## DRAFT REPORT

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NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## ANALYTICAL SAMPLE RESULTS

## Organochlorine Pesticides by EPA 8081B

| Analyte                        | Result | MDL | Reporting Limit | Units            | Dilution | Date Analyzed  | Method    | Notes |
|--------------------------------|--------|-----|-----------------|------------------|----------|----------------|-----------|-------|
| SS-2 (A7H0678-02RE1)           |        |     | Matrix: Soil    | Batch: 7081054   |          |                | C-05      |       |
| Aldrin                         | ND     | --- | 2.47            | ug/kg dry        | 1        | 08/30/17 13:32 | EPA 8081B |       |
| alpha-BHC                      | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| beta-BHC                       | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| delta-BHC                      | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| gamma-BHC (Lindane)            | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| cis-Chlordane                  | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| trans-Chlordane                | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| 4,4'-DDD                       | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| 4,4'-DDE                       | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| 4,4'-DDT                       | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Dieldrin                       | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Endosulfan I                   | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Endosulfan II                  | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Endosulfan sulfate             | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Endrin                         | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Endrin Aldehyde                | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Endrin ketone                  | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Heptachlor                     | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Heptachlor epoxide             | ND     | --- | 2.47            | "                | "        | "              | "         |       |
| Methoxychlor                   | ND     | --- | 7.40            | "                | "        | "              | "         |       |
| Chlordane (Technical)          | ND     | --- | 74.0            | "                | "        | "              | "         |       |
| Toxaphene (Total)              | ND     | --- | 74.0            | "                | "        | "              | "         |       |
| Surrogate: 2,4,5,6-TCMX (Surr) |        |     | Recovery: 47 %  | Limits: 42-129 % | "        | "              | "         |       |
| Decachlorobiphenyl (Surr)      |        |     | 87 %            | Limits: 65-151 % | "        | "              | "         |       |

DRAFT REPORT

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DRAFT REPORT, DATA SUBJECT TO CHANGE

NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeiglePolk County Public Works  
Y6318-012-17Reported:  
09/06/17 10:45

## ANALYTICAL SAMPLE RESULTS

## Organochlorine Pesticides by EPA 8081B

| Analyte                        | Result | MDL                 | Reporting Limit | Units                 | Dilution | Date Analyzed  | Method      | Notes |
|--------------------------------|--------|---------------------|-----------------|-----------------------|----------|----------------|-------------|-------|
| <b>SS-3 (A7H0678-03RE1)</b>    |        | <b>Matrix: Soil</b> |                 | <b>Batch: 7081054</b> |          |                | <b>C-05</b> |       |
| Aldrin                         | ND     | ---                 | 2.17            | ug/kg dry             | 1        | 08/30/17 13:49 | EPA 8081B   |       |
| alpha-BHC                      | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| beta-BHC                       | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| delta-BHC                      | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| gamma-BHC (Lindane)            | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| cis-Chlordane                  | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| trans-Chlordane                | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| 4,4'-DDD                       | ND     | ---                 | 2.39            | "                     | "        | "              | "           | R-02  |
| 4,4'-DDE                       | 9.19   | ---                 | 2.17            | "                     | "        | "              | "           |       |
| 4,4'-DDT                       | ND     | ---                 | 4.89            | "                     | "        | "              | "           | R-02  |
| Dieldrin                       | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Endosulfan I                   | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Endosulfan II                  | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Endosulfan sulfate             | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Endrin                         | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Endrin Aldehyde                | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Endrin ketone                  | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Heptachlor                     | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Heptachlor epoxide             | ND     | ---                 | 2.17            | "                     | "        | "              | "           |       |
| Methoxychlor                   | ND     | ---                 | 32.6            | "                     | "        | "              | "           | R-02  |
| Chlordane (Technical)          | ND     | ---                 | 65.2            | "                     | "        | "              | "           |       |
| Toxaphene (Total)              | ND     | ---                 | 65.2            | "                     | "        | "              | "           |       |
| Surrogate: 2,4,5,6-TCMX (Surr) |        | Recovery: 44 %      |                 | Limits: 42-129 %      |          | "              | "           | "     |
| Decachlorobiphenyl (Surr)      |        | 73 %                |                 | Limits: 65-151 %      |          | "              | "           | "     |

DRAFT REPORT

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12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax



NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

## ANALYTICAL SAMPLE RESULTS

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                              | Result | MDL | Reporting Limit     | Units            | Dilution              | Date Analyzed  | Method    | Notes |
|--------------------------------------|--------|-----|---------------------|------------------|-----------------------|----------------|-----------|-------|
| <b>SS-1 (A7H0678-01)</b>             |        |     | <b>Matrix: Soil</b> |                  | <b>Batch: 7090311</b> |                |           |       |
| Azinphos methyl (Guthion)            | ND     | --- | 475                 | ug/kg dry        | 10                    | 09/05/17 17:24 | 8270D OPP |       |
| Coumaphos                            | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Demeton O                            | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Demeton S                            | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Diazinon                             | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Dichlorvos                           | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Dimethoate                           | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Disulfoton                           | ND     | --- | 570                 | "                | "                     | "              | "         |       |
| EPN                                  | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Ethoprophos (Prophos)                | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Fensulfothion                        | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Fenthion                             | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Malathion                            | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Merphos                              | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Methyl parathion                     | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Mevinphos (Phosdrin)                 | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Monocrotophos                        | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Naled (Dibrom)                       | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Parathion, ethyl                     | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Phorate                              | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Ronnel (Fenchlorphos)                | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Sulfotep                             | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Sulprofos (Bolstar)                  | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| TEPP                                 | ND     | --- | 1900                | "                | "                     | "              | "         |       |
| Tetrachlorvinphos (Rabon)            | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Tokuthion (Prothiofos)               | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Trichloronate                        | ND     | --- | 475                 | "                | "                     | "              | "         |       |
| Surrogate: Tributyl phosphate (Surr) |        |     | Recovery: 123 %     | Limits: 50-141 % | "                     | "              | "         |       |
| Triphenyl phosphate (Surr)           |        |     | 121 %               | Limits: 60-130 % | "                     | "              | "         |       |

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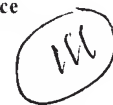
Report is complete only if it includes Calscience / Eurofins 8151 Data. Page 6 of 33

Page 6 of 21

09/12/2017

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

Apex Labs



NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

### ANALYTICAL SAMPLE RESULTS

#### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                              | Result | MDL | Reporting Limit     | Units            | Dilution              | Date Analyzed  | Method    | Notes |
|--------------------------------------|--------|-----|---------------------|------------------|-----------------------|----------------|-----------|-------|
| <b>SS-1 (A7H0678-01RE1)</b>          |        |     | <b>Matrix: Soil</b> |                  | <b>Batch: 7090311</b> |                |           |       |
| Chlorpyrifos                         | 101000 | --- | 4750                | ug/kg dry        | 100                   | 09/05/17 18:00 | 8270D OPP |       |
| <b>SS-2 (A7H0678-02RE1)</b>          |        |     | <b>Matrix: Soil</b> |                  | <b>Batch: 7090311</b> |                |           |       |
| Azinphos methyl (Guthion)            | ND     | --- | 54.9                | ug/kg dry        | 1                     | 09/05/17 19:49 | 8270D OPP |       |
| Chlorpyrifos                         | 370    | --- | 54.9                | "                | "                     | "              | "         |       |
| Coumaphos                            | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Demeton O                            | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Demeton S                            | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Diazinon                             | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Dichlorvos                           | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Dimethoate                           | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Disulfoton                           | ND     | --- | 65.9                | "                | "                     | "              | "         |       |
| EPN                                  | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Ethoprophos (Prophos)                | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Fensulfothion                        | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Fenthion                             | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Malathion                            | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Merphos                              | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Methyl parathion                     | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Mevinphos (Phosdrin)                 | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Monocrotophos                        | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Naled (Dibrom)                       | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Parathion, ethyl                     | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Phorate                              | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Ronnel (Fenchlorphos)                | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Sulfotep                             | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Sulprofos (Bolstar)                  | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| TEPP                                 | ND     | --- | 220                 | "                | "                     | "              | "         |       |
| Tetrachlorvinphos (Rabon)            | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Tokuthion (Prothiofos)               | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Trichloronate                        | ND     | --- | 54.9                | "                | "                     | "              | "         |       |
| Surrogate: Tributyl phosphate (Surr) |        |     | Recovery: 93 %      | Limits: 50-141 % | "                     | "              | "         |       |
| Triphenyl phosphate (Surr)           |        |     | 86 %                | Limits: 60-130 % | "                     | "              | "         |       |

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112

Polk County Public Works  
Y6318-012-17NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## ANALYTICAL SAMPLE RESULTS

## Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                              | Result | MDL                 | Reporting Limit | Units                 | Dilution | Date Analyzed  | Method    | Notes |
|--------------------------------------|--------|---------------------|-----------------|-----------------------|----------|----------------|-----------|-------|
| <b>SS-3 (A7H0678-03)</b>             |        | <b>Matrix: Soil</b> |                 | <b>Batch: 7090311</b> |          |                |           |       |
| Azinphos methyl (Guthion)            | ND     | ---                 | 1870            | ug/kg dry             | 40       | 09/05/17 16:10 | 8270D OPP |       |
| Chlorpyrifos                         | 17600  | ---                 | 1870            | "                     | "        | "              | "         |       |
| Coumaphos                            | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Demeton O                            | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Demeton S                            | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Diazinon                             | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Dichlorvos                           | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Dimethoate                           | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Disulfoton                           | ND     | ---                 | 2240            | "                     | "        | "              | "         |       |
| EPN                                  | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Ethoprophos (Prophos)                | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Fensulfothion                        | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Fenthion                             | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Malathion                            | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Merphos                              | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Methyl parathion                     | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Mevinphos (Phosdrin)                 | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Monocrotophos                        | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Naled (Dibrom)                       | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Parathion, ethyl                     | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Phorate                              | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Ronnel (Fenchlorphos)                | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Sulfotep                             | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Sulprofos (Bolstar)                  | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| TEPP                                 | ND     | ---                 | 7480            | "                     | "        | "              | "         |       |
| Tetrachlorvinphos (Rabon)            | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Tokuthion (Prothiofos)               | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Trichloronate                        | ND     | ---                 | 1870            | "                     | "        | "              | "         |       |
| Surrogate: Tributyl phosphate (Surr) |        | Recovery: 264 %     |                 | Limits: 50-141 %      | "        | "              | "         | S-05  |
| Triphenyl phosphate (Surr)           |        | 162 %               |                 | Limits: 60-130 %      | "        | "              | "         | S-05  |

DRAFT REPORT

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# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0322 Fax

113

Polk County Public Works  
Y6318-012-17

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

## ANALYTICAL SAMPLE RESULTS

| Percent Dry Weight       |        |     |                     |             |                       |                |           |       |
|--------------------------|--------|-----|---------------------|-------------|-----------------------|----------------|-----------|-------|
| Analyte                  | Result | MDL | Reporting Limit     | Units       | Dilution              | Date Analyzed  | Method    | Notes |
| <b>SS-1 (A7H0678-01)</b> |        |     | <b>Matrix: Soil</b> |             | <b>Batch: 7080981</b> |                |           |       |
| % Solids                 | 89.5   | --- | 1.00                | % by Weight | 1                     | 08/28/17 07:46 | EPA 8000C |       |
| <b>SS-2 (A7H0678-02)</b> |        |     | <b>Matrix: Soil</b> |             | <b>Batch: 7080981</b> |                |           |       |
| % Solids                 | 79.1   | --- | 1.00                | % by Weight | 1                     | 08/28/17 07:46 | EPA 8000C |       |
| <b>SS-3 (A7H0678-03)</b> |        |     | <b>Matrix: Soil</b> |             | <b>Batch: 7080981</b> |                |           |       |
| % Solids                 | 91.0   | --- | 1.00                | % by Weight | 1                     | 08/28/17 07:46 | EPA 8000C |       |

DRAFT REPORT

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Page 9 of 21

09/12/2017

NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organochlorine Pesticides by EPA 8081B

| Analyte                   | Result | MDL | Reporting Limit | Units     | Dil.             | Spike Amount                                      | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------|--------|-----|-----------------|-----------|------------------|---|---------------|------|-------------|-----|-----------|-------|
| Batch 7080947 - EPA 3546  |        |     |                 |           |                  | Soil  |               |      |             |     |           |       |
| Blank (7080947-BLK1)      |        |     |                 |           |                  | Prepared: 08/24/17 16:11 Analyzed: 08/25/17 10:59 |               |      |             |     |           |       |
| EPA 8081B                 |        |     |                 |           |                  |   |               |      |             |     |           |       |
| Dieldrin                  | ND     | --- | 0.909           | ug/kg wet | 1                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Surr: 2,4,5,6-TCMX (Surr) |        |     | Recovery: 93 %  |           | Limits: 42-129 % |   | Dilution: 1x  |      |             |     |           |       |
| Decachlorobiphenyl (Surr) |        |     | 92 %            |           | 65-151 %         |   | "             |      |             |     |           |       |
| LCS (7080947-BS1)         |        |     |                 |           |                  | Prepared: 08/24/17 16:11 Analyzed: 08/25/17 11:17 |               |      |             |     |           |       |
| EPA 8081B                 |        |     |                 |           |                  |   |               |      |             |     |           |       |
| Dieldrin                  | 38.2   | --- | 1.00            | ug/kg wet | 1                | 50.0  | ---           | 76   | 56-136%     | --- | ---       |       |
| Surr: 2,4,5,6-TCMX (Surr) |        |     | Recovery: 92 %  |           | Limits: 42-129 % |   | Dilution: 1x  |      |             |     |           |       |
| Decachlorobiphenyl (Surr) |        |     | 90 %            |           | 65-151 %         |   | "             |      |             |     |           |       |
| Batch 7081054 - EPA 3546  |        |     |                 |           |                  | Soil  |               |      |             |     |           |       |
| Blank (7081054-BLK1)      |        |     |                 |           |                  | Prepared: 08/24/17 16:11 Analyzed: 08/30/17 12:22 |               |      |             |     |           |       |
| EPA 8081B                 |        |     |                 |           |                  |   |               |      |             |     |           |       |
| Aldrin                    | ND     | --- | 1.82            | ug/kg wet | 1                | ---   | ---           | ---  | ---         | --- | ---       |       |
| alpha-BHC                 | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| beta-BHC                  | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| delta-BHC                 | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| gamma-BHC (Lindane)       | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| cis-Chlordane             | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| trans-Chlordane           | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| 4,4'-DDD                  | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| 4,4'-DDE                  | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| 4,4'-DDT                  | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Dieldrin                  | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Endosulfan I              | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Endosulfan II             | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Endosulfan sulfate        | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Endrin                    | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Endrin Aldehyde           | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Endrin ketone             | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Heptachlor                | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Heptachlor epoxide        | ND     | --- | 1.82            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Methoxychlor              | ND     | --- | 5.45            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |
| Chlordane (Technical)     | ND     | --- | 54.5            | "         | "                | ---   | ---           | ---  | ---         | --- | ---       |       |

## DRAFT REPORT

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NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organochlorine Pesticides by EPA 8081B

| Analyte                                | Result | MDL            | Reporting Limit | Units            | Dil. | Spike Amount                                      | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|----------------|-----------------|------------------|------|---|---------------|------|-------------|-----|-----------|-------|
| Batch 7081054 - EPA 3546               |        |                |                 |                  |      | Soil  |               |      |             |     |           |       |
| Blank (7081054-BLK1)                   |        |                |                 |                  |      | Prepared: 08/24/17 16:11 Analyzed: 08/30/17 12:22 |               |      |             |     |           | C-05  |
| EPA 8081B                              |        |                |                 |                  |      |   |               |      |             |     |           |       |
| Toxaphene (Total)                      | ND     | ---            | 54.5            | ug/kg wet        | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Surr: 2,4,5,6-TCMX (Surr)              |        | Recovery: 60 % |                 | Limits: 42-129 % |      | Dilution: 1x                                      |               |      |             |     |           |       |
| Decachlorobiphenyl (Surr)              |        | 84 %           |                 | 65-151 %         |      | "   |               |      |             |     |           |       |
| LCS (7081054-BS1)                      |        |                |                 |                  |      | Prepared: 08/24/17 16:11 Analyzed: 08/30/17 12:39 |               |      |             |     |           | C-05  |
| EPA 8081B                              |        |                |                 |                  |      |   |               |      |             |     |           |       |
| Aldrin                                 | 25.5   | ---            | 2.00            | ug/kg wet        | 1    | 50.0  | ---           | 51   | 45-136%     | --- | ---       |       |
| alpha-BHC                              | 24.1   | ---            | 2.00            | "                | "    | "   | ---           | 48   | 45-137%     | --- | ---       |       |
| beta-BHC                               | 35.0   | ---            | 2.00            | "                | "    | "   | ---           | 70   | 50-136%     | --- | ---       |       |
| delta-BHC                              | 38.1   | ---            | 2.00            | "                | "    | "   | ---           | 76   | 47-139%     | --- | ---       |       |
| gamma-BHC (Lindane)                    | 26.3   | ---            | 2.00            | "                | "    | "   | ---           | 53   | 49-135%     | --- | ---       |       |
| cis-Chlordane                          | 34.6   | ---            | 2.00            | "                | "    | "   | ---           | 69   | 54-133%     | --- | ---       |       |
| trans-Chlordane                        | 35.0   | ---            | 2.00            | "                | "    | "   | ---           | 70   | 53-135%     | --- | ---       |       |
| 4,4'-DDD                               | 45.2   | ---            | 2.00            | "                | "    | "   | ---           | 90   | 56-139%     | --- | ---       |       |
| 4,4'-DDE                               | 42.8   | ---            | 2.00            | "                | "    | "   | ---           | 86   | 56-134%     | --- | ---       |       |
| 4,4'-DDT                               | 55.5   | ---            | 2.00            | "                | "    | "   | ---           | 111  | 50-141%     | --- | ---       |       |
| Dieldrin                               | 36.7   | ---            | 2.00            | "                | "    | "   | ---           | 73   | 56-136%     | --- | ---       |       |
| Endosulfan I                           | 34.2   | ---            | 2.00            | "                | "    | "   | ---           | 68   | 52-132%     | --- | ---       |       |
| Endosulfan II                          | 41.4   | ---            | 2.00            | "                | "    | "   | ---           | 83   | 53-134%     | --- | ---       |       |
| Endosulfan sulfate                     | 40.7   | ---            | 2.00            | "                | "    | "   | ---           | 81   | 55-136%     | --- | ---       |       |
| Endrin                                 | 47.8   | ---            | 2.00            | "                | "    | "   | ---           | 96   | 56-140%     | --- | ---       |       |
| Endrin Aldehyde                        | 35.0   | ---            | 2.00            | "                | "    | "   | ---           | 70   | 35-137%     | --- | ---       |       |
| Endrin ketone                          | 42.2   | ---            | 2.00            | "                | "    | "   | ---           | 84   | 55-136%     | --- | ---       |       |
| Heptachlor                             | 25.0   | ---            | 2.00            | "                | "    | "   | ---           | 50   | 47-136%     | --- | ---       |       |
| Heptachlor epoxide                     | 30.8   | ---            | 2.00            | "                | "    | "   | ---           | 62   | 52-136%     | --- | ---       |       |
| Methoxychlor                           | 63.6   | ---            | 6.00            | "                | "    | "   | ---           | 127  | 52-143%     | --- | ---       |       |
| Surr: 2,4,5,6-TCMX (Surr)              |        | Recovery: 47 % |                 | Limits: 42-129 % |      | Dilution: 1x                                      |               |      |             |     |           |       |
| Decachlorobiphenyl (Surr)              |        | 89 %           |                 | 65-151 %         |      | "   |               |      |             |     |           |       |
| Duplicate (7081054-DUP1)               |        |                |                 |                  |      | Prepared: 08/24/17 16:11 Analyzed: 08/30/17 13:14 |               |      |             |     |           | C-05  |
| QC Source Sample: SS-1 (A7H0678-01RE1) |        |                |                 |                  |      |   |               |      |             |     |           |       |
| EPA 8081B                              |        |                |                 |                  |      |   |               |      |             |     |           |       |
| Aldrin                                 | ND     | ---            | 11.9            | ug/kg dry        | 1    | ---   | ND            | ---  | ---         | --- | 30%       | R-02  |
| alpha-BHC                              | ND     | ---            | 5.17            | "                | "    | ---   | ND            | ---  | ---         | --- | 30%       | R-02  |
| beta-BHC                               | ND     | ---            | 12.0            | "                | "    | ---   | ND            | ---  | ---         | --- | 30%       | R-02  |

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Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Polk County Public Works  
Y6318-012-17

Reported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organochlorine Pesticides by EPA 8081B

| Analyte                                | Result | MDL | Reporting Limit | Units     | Dil. | Spike Amount   | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|-----|-----------------|-----------|------|--|---------------|------|-------------|-----|-----------|-------|
| Batch 7081054 - EPA 3546               |        |     |                 |           |      | Soil   |               |      |             |     |           |       |
| Duplicate (7081054-DUP1)               |        |     |                 |           |      | Prepared: 08/24/17 16:11    Analyzed: 08/30/17 13:14 |               |      |             |     | C-05      |       |
| QC Source Sample: SS-1 (A7H0678-01RE1) |        |     |                 |           |      |  |               |      |             |     |           |       |
| EPA 8081B                              |        |     |                 |           |      |  |               |      |             |     |           |       |
| delta-BHC                              | ND     | --- | 6.28            | ug/kg dry | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| gamma-BHC (Lindane)                    | ND     | --- | 11.2            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| cis-Chlordane                          | ND     | --- | 6.17            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| trans-Chlordane                        | ND     | --- | 10.3            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| 4,4'-DDD                               | ND     | --- | 17.6            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| 4,4'-DDE                               | 42.4   | --- | 2.20            | "         | "    | ---  | 28.9          | ---  | ---         | 38  | 30%       | Q-17  |
| 4,4'-DDT                               | ND     | --- | 22.8            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Dieldrin                               | ND     | --- | 5.28            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Endosulfan I                           | ND     | --- | 6.39            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Endosulfan II                          | ND     | --- | 8.15            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Endosulfan sulfate                     | ND     | --- | 2.42            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Endrin                                 | ND     | --- | 12.8            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Endrin Aldehyde                        | ND     | --- | 14.6            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Endrin ketone                          | ND     | --- | 2.20            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       |       |
| Heptachlor                             | ND     | --- | 19.7            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Heptachlor epoxide                     | ND     | --- | 16.3            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Methoxychlor                           | ND     | --- | 135             | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       | R-02  |
| Chlordane (Technical)                  | ND     | --- | 66.1            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       |       |
| Toxaphene (Total)                      | ND     | --- | 66.1            | "         | "    | ---  | ND            | ---  | ---         | --- | 30%       |       |

Surr: 2,4,5,6-TCMX (Surr) Recovery: 79 % Limits: 42-129 % Dilution: 1x  
Decachlorobiphenyl (Surr) 87 % 65-151 % "

**Matrix Spike (7081054-MS1)** Prepared: 08/24/17 16:11 Analyzed: 08/30/17 14:07 C-05

QC Source Sample: SS-3 (A7H0678-03RE1)

**EPA 8081B**

|                     |      |     |      |           |   |      |    |    |         |     |     |
|---------------------|------|-----|------|-----------|---|------|----|----|---------|-----|-----|
| Aldrin              | 32.3 | --- | 2.16 | ug/kg dry | 1 | 54.1 | ND | 60 | 45-136% | --- | --- |
| alpha-BHC           | 27.6 | --- | 2.16 | "         | " | "    | ND | 51 | 45-137% | --- | --- |
| beta-BHC            | 37.9 | --- | 2.16 | "         | " | "    | ND | 70 | 50-136% | --- | --- |
| delta-BHC           | 40.6 | --- | 2.16 | "         | " | "    | ND | 75 | 47-139% | --- | --- |
| gamma-BHC (Lindane) | 30.3 | --- | 2.16 | "         | " | "    | ND | 56 | 49-135% | --- | --- |
| cis-Chlordane       | 39.2 | --- | 2.16 | "         | " | "    | ND | 73 | 54-133% | --- | --- |
| trans-Chlordane     | 40.9 | --- | 2.16 | "         | " | "    | ND | 73 | 53-135% | --- | --- |
| 4,4'-DDD            | 52.0 | --- | 2.16 | "         | " | "    | ND | 92 | 56-139% | --- | --- |

## DRAFT REPORT

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117

Polk County Public Works  
Y6318-012-17

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organochlorine Pesticides by EPA 8081B

| Analyte                                | Result | MDL            | Reporting Limit | Units            | Dil. | Spike Amount   | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|--|--------|----------------|-----------------|------------------|------|--|---------------|------|-------------|-----|-----------|-------|
| Batch 7081054 - EPA 3546               |        |                |                 |                  |      | Soil   |               |      |             |     |           |       |
| Matrix Spike (7081054-MS1)             |        |                |                 |                  |      | Prepared: 08/24/17 16:11    Analyzed: 08/30/17 14:07 |               |      |             |     |           | C-05  |
| QC Source Sample: SS-3 (A7H0678-03RE1) |        |                |                 |                  |      |  |               |      |             |     |           |       |
| EPA 8081B                              |        |                |                 |                  |      |  |               |      |             |     |           |       |
| 4,4'-DDE                               | 60.1   | ---            | 2.16            | ug/kg dry        | "    | "  | 9.19          | 94   | 56-134%     | --- | ---       |       |
| 4,4'-DDT                               | 68.8   | ---            | 2.16            | "                | "    | "  | ND            | 118  | 50-141%     | --- | ---       |       |
| Dieldrin                               | 41.1   | ---            | 2.16            | "                | "    | "  | ND            | 76   | 56-136%     | --- | ---       |       |
| Endosulfan I                           | 40.1   | ---            | 2.16            | "                | "    | "  | ND            | 74   | 52-132%     | --- | ---       |       |
| Endosulfan II                          | 45.5   | ---            | 2.16            | "                | "    | "  | ND            | 82   | 53-134%     | --- | ---       |       |
| Endosulfan sulfate                     | 48.4   | ---            | 2.16            | "                | "    | "  | ND            | 89   | 55-136%     | --- | ---       |       |
| Endrin                                 | 55.7   | ---            | 2.16            | "                | "    | "  | ND            | 99   | 56-140%     | --- | ---       |       |
| Endrin Aldehyde                        | 41.9   | ---            | 2.16            | "                | "    | "  | ND            | 75   | 35-137%     | --- | ---       |       |
| Endrin ketone                          | 47.6   | ---            | 2.16            | "                | "    | "  | ND            | 88   | 55-136%     | --- | ---       |       |
| Heptachlor                             | 32.3   | ---            | 2.16            | "                | "    | "  | ND            | 60   | 47-136%     | --- | ---       |       |
| Heptachlor epoxide                     | 38.3   | ---            | 2.16            | "                | "    | "  | ND            | 68   | 52-136%     | --- | ---       |       |
| Methoxychlor                           | 102    | ---            | 6.49            | "                | "    | "  | ND            | 130  | 52-143%     | --- | ---       | Q-41  |
| Surr: 2,4,5,6-TCMX (Surr)              |        | Recovery: 48 % |                 | Limits: 42-129 % |      | Dilution: 1x   |               |      |             |     |           |       |
| Decachlorobiphenyl (Surr)              |        | 82 %           |                 | 65-151 %         |      | "  |               |      |             |     |           |       |

DRAFT REPORT

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118

Polk County Public Works  
Y6318-012-17NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                   | Result | MDL | Reporting Limit | Units     | Dil. | Spike Amount                                      | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------|--------|-----|-----------------|-----------|------|---|---------------|------|-------------|-----|-----------|-------|
| Batch 7090311 - EPA 3546  |        |     |                 |           |      | Soil  |               |      |             |     |           |       |
| Blank (7090311-BLK1)      |        |     |                 |           |      | Prepared: 09/05/17 12:13 Analyzed: 09/05/17 14:57 |               |      |             |     |           |       |
| 8270D OPP                 |        |     |                 |           |      |   |               |      |             |     |           |       |
| Azinphos methyl (Guthion) | ND     | --- | 41.7            | ug/kg wet | 1    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Chlorpyrifos              | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Coumaphos                 | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Demeton O                 | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Demeton S                 | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Diazinon                  | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Dichlorvos                | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Dimethoate                | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Disulfoton                | ND     | --- | 50.0            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| EPN                       | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Ethoprophos (Prophos)     | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Fensulfothion             | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Fenthion                  | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Malathion                 | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Merphos                   | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Methyl parathion          | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Mevinphos (Phosdrin)      | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Monocrotophos             | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Naled (Dibrom)            | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Parathion, ethyl          | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Phorate                   | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Ronnel (Fenchlorphos)     | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Sulfotep                  | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Sulprofos (Bolstar)       | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| TEPP                      | ND     | --- | 167             | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Tetrachlorvinphos (Rabon) | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Tokuthion (Prothiofos)    | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |
| Trichloronate             | ND     | --- | 41.7            | "         | "    | ---   | ---           | ---  | ---         | --- | ---       |       |

Surr: Tributyl phosphate (Surr)  
Triphenyl phosphate (Surr)Recovery: 103 %  
87 %Limits: 50-141 %  
60-130 %Dilution: 1x  
"

LCS (7090311-BS1)

Prepared: 09/05/17 12:13 Analyzed: 09/05/17 15:33

Q-18

8270D OPP

|                           |     |     |      |           |   |     |     |    |         |     |     |  |
|---------------------------|-----|-----|------|-----------|---|-----|-----|----|---------|-----|-----|--|
| Azinphos methyl (Guthion) | 387 | --- | 50.0 | ug/kg wet | 1 | 400 | --- | 97 | 38-156% | --- | --- |  |
| Chlorpyrifos              | 324 | --- | 50.0 | "         | " | "   | --- | 81 | 47-140% | --- | --- |  |

## DRAFT REPORT

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NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                         | Result | MDL | Reporting Limit | Units  | Dil. | Spike Amount | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------|--------|-----|-----------------|--|------|--------------|---------------|------|-------------|-----|-----------|-------|
| Batch 7090311 - EPA 3546        |        |     |                 |  |      | Soil         |               |      |             |     |           |       |
| LCS (7090311-BS1)               |        |     |                 | Prepared: 09/05/17 12:13    Analyzed: 09/05/17 15:33 |      |              |               |      |             |     |           | Q-18  |
| 8270D OPP                       |        |     |                 |  |      |              |               |      |             |     |           |       |
| Coumaphos                       | 417    | --- | 50.0            | ug/kg wet  | "    | "            | ---           | 104  | 37-160%     | --- | ---       |       |
| Demeton O                       | 97.6   | --- | 50.0            | "  | "    | 97.6         | ---           | 100  | 43-117%     | --- | ---       |       |
| Demeton S                       | 245    | --- | 50.0            | "  | "    | 268          | ---           | 91   | "           | --- | ---       |       |
| Diazinon                        | 369    | --- | 50.0            | "  | "    | 400          | ---           | 92   | 42-134%     | --- | ---       |       |
| Dichlorvos                      | 422    | --- | 50.0            | "  | "    | "            | ---           | 106  | 39-142%     | --- | ---       |       |
| Dimethoate                      | 386    | --- | 50.0            | "  | "    | "            | ---           | 97   | 16-139%     | --- | ---       |       |
| Disulfoton                      | 387    | --- | 60.0            | "  | "    | "            | ---           | 97   | 28-144%     | --- | ---       |       |
| EPN                             | 423    | --- | 50.0            | "  | "    | "            | ---           | 106  | 44-137%     | --- | ---       |       |
| Ethoprophos (Prophos)           | 400    | --- | 50.0            | "  | "    | "            | ---           | 100  | 47-128%     | --- | ---       |       |
| Fensulfothion                   | 501    | --- | 50.0            | "  | "    | "            | ---           | 125  | 27-147%     | --- | ---       | Q-41  |
| Fenthion                        | 352    | --- | 50.0            | "  | "    | "            | ---           | 88   | 44-134%     | --- | ---       |       |
| Malathion                       | 319    | --- | 50.0            | "  | "    | "            | ---           | 80   | 46-137%     | --- | ---       |       |
| Merphos                         | 331    | --- | 50.0            | "  | "    | "            | ---           | 83   | 0-153%      | --- | ---       |       |
| Methyl parathion                | 340    | --- | 50.0            | "  | "    | "            | ---           | 85   | 49-138%     | --- | ---       |       |
| Mevinphos (Phosdrin)            | 372    | --- | 50.0            | "  | "    | "            | ---           | 93   | 12-176%     | --- | ---       |       |
| Monocrotophos                   | 432    | --- | 50.0            | "  | "    | "            | ---           | 108  | 65-135%     | --- | ---       | Q-41  |
| Naled (Dibrom)                  | 398    | --- | 50.0            | "  | "    | "            | ---           | 99   | 0-174%      | --- | ---       |       |
| Parathion, ethyl                | 329    | --- | 50.0            | "  | "    | "            | ---           | 82   | 50-139%     | --- | ---       |       |
| Phorate                         | 436    | --- | 50.0            | "  | "    | "            | ---           | 109  | 23-142%     | --- | ---       | Q-41  |
| Ronnel (Fenchlorphos)           | 319    | --- | 50.0            | "  | "    | "            | ---           | 80   | 45-138%     | --- | ---       |       |
| Sulfotep                        | 466    | --- | 50.0            | "  | "    | "            | ---           | 116  | 52-126%     | --- | ---       | Q-41  |
| Sulprofos (Bolstar)             | 354    | --- | 50.0            | "  | "    | "            | ---           | 89   | 48-139%     | --- | ---       |       |
| TEPP                            | 425    | --- | 200             | "  | "    | "            | ---           | 106  | 30-150%     | --- | ---       | Q-41  |
| Tetrachlorvinphos (Rabon)       | 305    | --- | 50.0            | "  | "    | "            | ---           | 76   | 54-129%     | --- | ---       |       |
| Tokuthion (Prothiofos)          | 314    | --- | 50.0            | "  | "    | "            | ---           | 79   | 45-136%     | --- | ---       |       |
| Trichloronate                   | 294    | --- | 50.0            | "  | "    | "            | ---           | 74   | 37-140%     | --- | ---       |       |
| Surr: Tributyl phosphate (Surr) |        |     |                 |  |      |              |               |      |             |     |           |       |
|                                 |        |     | Recovery: 101 % | Limits: 50-141 %                                     |      | Dilution: 1x |               |      |             |     |           |       |
| Triphenyl phosphate (Surr)      |        |     | 80 %            | 60-130 %   |      | "            |               |      |             |     |           |       |

## Duplicate (7090311-DUP1)

Prepared: 09/05/17 12:13 Analyzed: 09/05/17 18:37

QC Source Sample: SS-1 (A7H0678-01)

## 8270D OPP

|                           |    |     |     |           |    |     |    |     |     |     |     |
|---------------------------|----|-----|-----|-----------|----|-----|----|-----|-----|-----|-----|
| Azinphos methyl (Guthion) | ND | --- | 474 | ug/kg dry | 10 | --- | ND | --- | --- | --- | 30% |
| Coumaphos.                | ND | --- | 474 | "         | "  | --- | ND | --- | --- | --- | 30% |

## DRAFT REPORT

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120

Polk County Public Works  
Y6318-012-17NRC  
6211 N Ensign St  
Portland, OR 97217Project: 117041  
Project Number: 117041  
Project Manager: Roman GeigleReported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

## Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

| Analyte                             | Result | MDL             | Reporting Limit | Units            | Dil. | Spike Amount  | Source Result                                     | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-------------------------------------|--------|-----------------|-----------------|------------------|------|---------------|---|------|-------------|-----|-----------|-------|
| Batch 7090311 - EPA 3546            |        |                 |                 |                  |      |               | Soil  |      |             |     |           |       |
| Duplicate (7090311-DUP1)            |        |                 |                 |                  |      |               | Prepared: 09/05/17 12:13 Analyzed: 09/05/17 18:37 |      |             |     |           |       |
| QC Source Sample: SS-1 (A7H0678-01) |        |                 |                 |                  |      |               |   |      |             |     |           |       |
| 8270D OPP                           |        |                 |                 |                  |      |               |   |      |             |     |           |       |
| Demeton O                           | ND     | ---             | 474             | ug/kg dry        | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Demeton S                           | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Diazinon                            | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Dichlorvos                          | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Dimethoate                          | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Disulfoton                          | ND     | ---             | 569             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| EPN                                 | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Ethoprophos (Prophos)               | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Fensulfothion                       | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Fenthion                            | ND     | ---             | 3130            | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       | R-02  |
| Malathion                           | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Merphos                             | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Methyl parathion                    | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Mevinphos (Phosdrin)                | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Monocrotophos                       | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Naled (Dibrom)                      | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Parathion, ethyl                    | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Phorate                             | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Ronnel (Fenchlorphos)               | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Sulfotep                            | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Sulprofos (Bolstar)                 | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| TEPP                                | ND     | ---             | 1900            | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Tetrachlorvinphos (Rabon)           | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Tokuthion (Prothiofos)              | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Trichloronate                       | ND     | ---             | 474             | "                | "    | ---           | ND  | ---  | ---         | --- | 30%       |       |
| Surr: Tributyl phosphate (Surr)     |        | Recovery: 131 % |                 | Limits: 50-141 % |      | Dilution: 10x |   |      |             |     |           |       |
| Triphenyl phosphate (Surr)          |        | 110 %           |                 | 60-130 %         |      | "             |   |      |             |     |           |       |

Duplicate (7090311-DUP2) Prepared: 09/05/17 12:13 Analyzed: 09/05/17 19:13

QC Source Sample: SS-1 (A7H0678-01RE1)

|              |        |     |      |           |     |     |        |     |     |    |     |  |
|--------------|--------|-----|------|-----------|-----|-----|--------|-----|-----|----|-----|--|
| 8270D OPP    |        |     |      |           |     |     |        |     |     |    |     |  |
| Chlorpyrifos | 114000 | --- | 4740 | ug/kg dry | 100 | --- | 101000 | --- | --- | 12 | 30% |  |

## DRAFT REPORT

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# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

121

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Polk County Public Works  
Y6318-012-17

Reported:  
09/06/17 10:45

## QUALITY CONTROL (QC) SAMPLE RESULTS

### Percent Dry Weight

| Analyte                                   | Result | MDL | Reporting<br>Limit | Units | Dil. | Spike<br>Amount | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Notes |
|---|--------|-----|--------------------|-------|------|-----------------|------------------|------|----------------|-----|--------------|-------|
| Batch 7080981 - Total Solids (Dry Weight) |        |     |                    |       |      |                 | Soil             |      |                |     |              |       |

DRAFT REPORT

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DRAFT REPORT, DATA SUBJECT TO CHANGE

Report is complete only if it includes Calscience / Eurofins 8151 Data. Page 17 of 33

Page 17 of 21

09/12/2017

# Apex Labs

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone

122

Polk County Public Works  
Y6318-012-17

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

## SAMPLE PREPARATION INFORMATION

### Organochlorine Pesticides by EPA 8081B

#### Prep: EPA 3546

| Lab Number     | Matrix | Method    | Sampled        | Prepared       | Sample Initial/Final | Default Initial/Final | RL Prep Factor |
|----------------|--------|-----------|----------------|----------------|----------------------|-----------------------|----------------|
| Batch: 7081054 |        |           |                |                |                      |                       |                |
| A7H0678-01RE1  | Soil   | EPA 8081B | 08/23/17 10:05 | 08/24/17 16:11 | 10.15g/10mL          | 10g/5mL               | 1.97           |
| A7H0678-02RE1  | Soil   | EPA 8081B | 08/23/17 10:11 | 08/24/17 16:11 | 10.25g/10mL          | 10g/5mL               | 1.95           |
| A7H0678-03RE1  | Soil   | EPA 8081B | 08/23/17 10:16 | 08/24/17 16:11 | 10.11g/10mL          | 10g/5mL               | 1.98           |

### Organophosphorous Pesticides (OPPs) by EPA 8270D (GC/MS)

#### Prep: EPA 3546

| Lab Number     | Matrix | Method    | Sampled        | Prepared       | Sample Initial/Final | Default Initial/Final | RL Prep Factor |
|----------------|--------|-----------|----------------|----------------|----------------------|-----------------------|----------------|
| Batch: 7090311 |        |           |                |                |                      |                       |                |
| A7H0678-01     | Soil   | 8270D OPP | 08/23/17 10:05 | 09/05/17 12:13 | 11.76g/5mL           | 10g/5mL               | 0.85           |
| A7H0678-01RE1  | Soil   | 8270D OPP | 08/23/17 10:05 | 09/05/17 12:13 | 11.76g/5mL           | 10g/5mL               | 0.85           |
| A7H0678-02RE1  | Soil   | 8270D OPP | 08/23/17 10:11 | 09/05/17 12:13 | 11.52g/5mL           | 10g/5mL               | 0.87           |
| A7H0678-03     | Soil   | 8270D OPP | 08/23/17 10:16 | 09/05/17 12:13 | 11.76g/5mL           | 10g/5mL               | 0.85           |

### Percent Dry Weight

#### Prep: Total Solids (Dry Weight)

| Lab Number     | Matrix | Method    | Sampled        | Prepared       | Sample Initial/Final | Default Initial/Final | RL Prep Factor |
|----------------|--------|-----------|----------------|----------------|----------------------|-----------------------|----------------|
| Batch: 7080981 |        |           |                |                |                      |                       |                |
| A7H0678-01     | Soil   | EPA 8000C | 08/23/17 10:05 | 08/25/17 13:08 | 1N/A/1N/A            | 1N/A/1N/A             | NA             |
| A7H0678-02     | Soil   | EPA 8000C | 08/23/17 10:11 | 08/25/17 13:08 | 1N/A/1N/A            | 1N/A/1N/A             | NA             |
| A7H0678-03     | Soil   | EPA 8000C | 08/23/17 10:16 | 08/25/17 13:08 | 1N/A/1N/A            | 1N/A/1N/A             | NA             |

DRAFT REPORT

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DRAFT REPORT, DATA SUBJECT TO CHANGE

Report is complete only if it includes Calscience / Eurofins 8151 Data. Page 18 of 33

09/12/2017

Page 18 of 21

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

## Notes and Definitions

### Qualifiers:

- C-05 Extract has undergone a GPC (Gel-Permeation Chromatography) cleanup per EPA 3640A. Reporting levels may be raised due to dilution necessary for cleanup. Sample Final Volume includes the GPC dilution factor, see the Prep page for details.
- Q-17 RPD between original and duplicate sample is outside of established control limits.
- Q-18 Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
- Q-41 Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42 Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.  
  
For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.  
  
Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

DRAFT REPORT

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# Apex Labs

Polk County Public Works  
Y6318-012-17  
12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323 Phone  
503-718-0333 Fax

127

NRC  
6211 N Ensign St  
Portland, OR 97217

Project: 117041  
Project Number: 117041  
Project Manager: Roman Geigle

Reported:  
09/06/17 10:45

A7H0678

## CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST

Date: 8-23-17  
Page 1 of 1



6211 N. Ensign Street  
Portland, OR 97217  
503-283-1150 FAX 503-289-6568

| Project: 117041               |         | Job #: 117041                                |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
|-------------------------------|---------|--|--------|--|--------|-------------------------------|----|-------------------|---------------------|------------------|------------------|-----------------|------|------|------|
| NRCES Contact: Roman Geigle   |         | PO #:  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Telephone: 503-522-2473       |         |  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Samplers Name: Roman Geigle   |         |  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Samplers Signature: Roman     |         |  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| SAMPLE ID                     | DATE    | TIME   | MATRIX | NO. OF CONT.   | VOLUME | NWTPH (Circle One)<br>HCID Dx | Gx | BTEX by EPA 8021B | PAHs by EPA 8270SIM | VOCs by EPA 8260 | PCBs by EPA 8082 | Metals (616131) | 1808 | 0628 | 1518 |
| SS-1                          | 8/23/17 | 1005   | S      | 1  | 8oz    |                               |    |                   |                     |                  |                  |                 | ✓    | ✓    |      |
| SS-2                          |         | 1011   | S      | 1  |        |                               |    |                   |                     |                  |                  |                 | ✓    | ✓    |      |
| SS-3                          |         | 1016   | S      | 1  |        |                               |    |                   |                     |                  |                  |                 | ✓    | ✓    |      |
| SS-4                          | X       | 1100   | S      | 1  | X      |                               |    |                   |                     |                  |                  |                 |      |      | ✓    |
| Relinquished By: Roman Geigle |         | Relinquished By: Michael H. Smith            |        | SPECIAL INSTRUCTIONS<br>Email results & Invoice to<br>RG-Geigle@NRCC.com   |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Signature: Roman              |         | Signature: Michael H. Smith                  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Firm: NRC                     |         | Firm: Apex Labs                              |        | TURNAROUND TIME:<br>SS-1, SS-2, SS-3 - 2 day<br>SS-4 - 7-10 day  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Date/Time: 8-24-17/1412       |         | Date/Time: 8-24-17/1412                      |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Relinquished By:              |         | LAB REPORT NUMBER:                           |        | Samples on Ice? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Temperature: |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Signature:                    |         | ANALYTICAL LABORATORY NAME / ADDRESS / PHONE |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Firm:                         |         |  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |
| Date/Time:                    |         |  |        |  |        |                               |    |                   |                     |                  |                  |                 |      |      |      |

Revised 3/28/2011

DRAFT REPORT

The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis. QC validation on final data review. Please use these results with the understanding that they may have not been finalized by the laboratory.

DRAFT REPORT, DATA SUBJECT TO CHANGE

Report is complete only if it includes Calcsence / Eurofins 8151 Data. Page 20 of 33

09/12/2017

Page 20 of 21

# Apex Labs

Polk County Public Works  
 Y6318-012-17  
 Tigard, OR 97223  
 503-718-2323 Phone  
 503-718-0333 Fax

125

NRC  
 6211 N Ensign St  
 Portland, OR 97217

Project: 117041  
 Project Number: 117041  
 Project Manager: Roman Geigle

Reported:  
 09/06/17 10:45

## APEX LABS COOLER RECEIPT FORM

Client: NRC Element WO#: A7 HDL678

Project/Project #: 117041

### Delivery info:

Date/Time Received: 8/24/17 @ 1412 By: MA

Delivered by: Apex ☒ Client ☐ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐

Cooler Inspection Inspected by: MA : 8/24/17 @ 1450

Chain of Custody Included? Yes ☒ No ☐ Custody Seals? Yes ☐ No ☒

Signed/Dated by Client? Yes ☒ No ☐

Signed/Dated by Apex? Yes ☒ No ☐

| Cooler #1                  | Cooler #2   | Cooler #3 | Cooler #4 | Cooler #5 | Cooler #6 | Cooler #7 |
|----------------------------|-------------|-----------|-----------|-----------|-----------|-----------|
| Temperature (deg. C)       |             |           |           |           |           |           |
| Received on Ice? (Y/N)     |             |           |           |           |           |           |
| Temp. Blanks? (Y/N)        | <u>3.3</u>  |           |           |           |           |           |
| Ice Type: (Gel/Real/Other) |             |           |           |           |           |           |
| Condition:                 | <u>good</u> |           |           |           |           |           |

Cooler out of temp? (Y/N) Possible reason why: NA  
 If some coolers are in temp and some out, were green dot applied to bot of temperature samples? Yes/No/NA

Samples Inspection: Inspected by: MA : 8/24/17 @ 1510

All Samples Intact? Yes ☒ No ☐ Comments: \_\_\_\_\_

Bottle Labels/COCs agree? Yes ☒ No ☐ Comments: \_\_\_\_\_

Containers/Volumes Received Appropriate for Analysis? Yes ☒ No ☐ Comments: \_\_\_\_\_

Do VOA Vials have Visible Headspace? Yes ☐ No ☐ NA ☒

Comments: \_\_\_\_\_

Water Samples: pH Checked and Appropriate (except VOAs): Yes ☐ No ☐ NA ☒

Comments: \_\_\_\_\_

Additional Information: \_\_\_\_\_

Labeled by: \_\_\_\_\_ Witness: \_\_\_\_\_ Cooler Inspected by: \_\_\_\_\_ See Project Contact Form: ☒

MA MA MA

DRAFT REPORT

The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory

DRAFT REPORT, DATA SUBJECT TO CHANGE

Report is complete only if it includes Calscience / Eurofins 8151 Data. Page 21 of 33

09/12/2017



Calscience

1286  
Polk County Public Works  
Y6318-012-17

**WORK ORDER NUMBER: 17-08-2176***The difference is service*

AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For****Client:** APEX Laboratories, LLC**Client Project Name:** A7H0678

**Attention:** Darwin Thomas  
12232 SW Garden Place  
Portland, OR 97223-8246

Approved for release on 09/12/2017 by:  
Lori Thompson  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Calscience

Page -  
Polk County Public Works  
Y6318-012-17

127

## Contents

Client Project Name: A7H0678  
Work Order Number: 17-08-2176

|   |   |    |
|---|---|----|
| 1 | Work Order Narrative. . . . .                         | 3  |
| 2 | Sample Summary. . . . .                               | 4  |
| 3 | Client Sample Data. . . . .                           | 5  |
|   | 3.1 EPA 8151A Chlorinated Herbicides (Solid). . . . . | 5  |
| 4 | Quality Control Sample Data. . . . .                  | 6  |
|   | 4.1 MS/MSD. . . . .                                   | 6  |
|   | 4.2 LCS/LCSD. . . . .                                 | 7  |
| 5 | Sample Analysis Summary. . . . .                      | 8  |
| 6 | Glossary of Terms and Qualifiers. . . . .             | 9  |
| 7 | Chain-of-Custody/Sample Receipt Form. . . . .         | 10 |



Calscience

**Work Order Narrative**Polk County Public Works  
Y6318-012-17

128

Work Order: 17-08-2176

Page 1 of 1

**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/26/17. They were assigned to Work Order 17-08-2176.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Return to Contents



Calscience

**Sample Summary**Polk County Public Works  
Y6318-012-17

129

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|                                |                       |                |
|--------------------------------|-----------------------|----------------|
| Client: APEX Laboratories, LLC | Work Order:           | 17-08-2176     |
| 12232 SW Garden Place          | Project Name:         | A7H0678        |
| Portland, OR 97223-8246        | PO Number:            |                |
|                                | Date/Time Received:   | 08/26/17 09:30 |
|                                | Number of Containers: | 1              |

Attn: Darwin Thomas

---

| Sample Identification | Lab Number   | Collection Date and Time | Number of Containers | Matrix |
|-----------------------|--------------|--------------------------|----------------------|--------|
| SS-4                  | 17-08-2176-1 | 08/23/17 11:00           | 1                    | Solid  |

  
Return to Contents



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## Analytical Report

Polk County Public Works  
Y6318-012-17

APEX Laboratories, LLC  
12232 SW Garden Place  
Portland, OR 97223-8246

Date Received: 08/26/17  
Work Order: 17-08-2176  
Preparation: EPA 8151A  
Method: EPA 8151A  
Units: ug/kg

Project: A7H0678

Page 1 of 1

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|----------------------|-------------------|---------------------|--------|------------|---------------|--------------------|-------------|
| SS-4                 | 17-08-2176-1-A    | 08/23/17<br>11:00   | Solid  | GC 40      | 09/01/17      | 09/07/17<br>17:44  | 170901L12   |

Comment(s): - Results are reported on a dry weight basis.  
- Results were evaluated to the MDL (DL), concentrations  $\geq$  to the MDL (DL) but  $<$  RL (LOQ), if found, are qualified with a "J" flag.

| Parameter         | Result | RL       | MDL     | DF   | Qualifiers |
|-------------------|--------|----------|---------|------|------------|
| Dalapon           | ND     | 420000   | 120000  | 1000 |            |
| Dicamba           | ND     | 17000    | 2100    | 1000 |            |
| MCP               | ND     | 17000000 | 5300000 | 1000 |            |
| MCPA              | ND     | 17000000 | 3500000 | 1000 |            |
| Dichlorprop       | ND     | 170000   | 28000   | 1000 |            |
| 2,4-D             | 320000 | 170000   | 24000   | 1000 |            |
| 2,4,5-TP (Silvex) | ND     | 17000    | 4000    | 1000 |            |
| 2,4,5-T           | ND     | 17000    | 1900    | 1000 |            |
| 2,4-DB            | ND     | 170000   | 27000   | 1000 |            |
| Dinoseb           | ND     | 84000    | 8600    | 1000 |            |

| Surrogate                     | Rec. (%) | Control Limits | Qualifiers |
|-------------------------------|----------|----------------|------------|
| 2,4-Dichlorophenylacetic acid | 0        | 44-146         | 1,2,6      |

| Method Blank | 095-01-033-1499 | N/A | Solid | GC 40 | 09/01/17 | 09/06/17<br>15:08 | 170901L12 |
|--------------|-----------------|-----|-------|-------|----------|-------------------|-----------|
|--------------|-----------------|-----|-------|-------|----------|-------------------|-----------|

Comment(s): - Results were evaluated to the MDL (DL), concentrations  $\geq$  to the MDL (DL) but  $<$  RL (LOQ), if found, are qualified with a "J" flag.

| Parameter         | Result | RL    | MDL  | DF   | Qualifiers |
|-------------------|--------|-------|------|------|------------|
| Dalapon           | ND     | 250   | 73   | 1.00 |            |
| Dicamba           | ND     | 10    | 1.2  | 1.00 |            |
| MCP               | ND     | 10000 | 3200 | 1.00 |            |
| MCPA              | ND     | 10000 | 2100 | 1.00 |            |
| Dichlorprop       | ND     | 100   | 17   | 1.00 |            |
| 2,4-D             | ND     | 100   | 14   | 1.00 |            |
| 2,4,5-TP (Silvex) | ND     | 10    | 2.3  | 1.00 |            |
| 2,4,5-T           | ND     | 10    | 1.1  | 1.00 |            |
| 2,4-DB            | ND     | 100   | 16   | 1.00 |            |
| Dinoseb           | ND     | 50    | 5.1  | 1.00 |            |

| Surrogate                     | Rec. (%) | Control Limits | Qualifiers |
|-------------------------------|----------|----------------|------------|
| 2,4-Dichlorophenylacetic acid | 52       | 44-146         |            |

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Quality Control - Spike/Spike Duplicate

 Polk County Public Works  
 Y6318-012-17

 APEX Laboratories, LLC  
 12232 SW Garden Place  
 Portland, OR 97223-8246

 Date Received: 08/26/17  
 Work Order: 17-08-2176  
 Preparation: EPA 8151A  
 Method: EPA 8151A

Project: A7H0678

Page 1 of 1

| Quality Control Sample ID | Type                   | Matrix | Instrument | Date Prepared | Date Analyzed  | MS/MSD Batch Number |
|---------------------------|------------------------|--------|------------|---------------|----------------|---------------------|
| 17-09-0001-17             | Sample                 | Solid  | GC 40      | 09/01/17      | 09/07/17 15:25 | 170901S12           |
| 17-09-0001-17             | Matrix Spike           | Solid  | GC 40      | 09/01/17      | 09/06/17 23:38 | 170901S12           |
| 17-09-0001-17             | Matrix Spike Duplicate | Solid  | GC 40      | 09/01/17      | 09/07/17 00:02 | 170901S12           |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|-----------|--------------|-------------|----------|----------|-----------|-----------|----------|-----|--------|------------|
| 2,4-D     | 375.2        | 400.0       | 814.1    | 110      | 674.3     | 75        | 32-146   | 19  | 0-37   |            |
| 2,4,5-T   | 71.86        | 40.00       | 88.47    | 42       | 72.71     | 2         | 27-147   | 20  | 0-37   |            |
| 2,4-DB    | ND           | 400.0       | 484.1    | 121      | 417.3     | 104       | 31-151   | 15  | 0-42   |            |

RPD: Relative Percent Difference. CL: Control Limits

132



Calscience

## Quality Control - LCS

 Polk County Public Works  
 Y6318-012-17

 APEX Laboratories, LLC  
 12232 SW Garden Place  
 Portland, OR 97223-8246

 Date Received: 08/26/17  
 Work Order: 17-08-2176  
 Preparation: EPA 8151A  
 Method: EPA 8151A

Project: A7H0678

Page 1 of 1

| Quality Control Sample ID | Type        | Matrix | Instrument      | Date Prepared | Date Analyzed  | LCS Batch Number |
|---------------------------|-------------|--------|-----------------|---------------|----------------|------------------|
| 095-01-033-1499           | LCS         | Solid  | GC 40           | 09/01/17      | 09/07/17 00:25 | 170901L12        |
| Parameter                 | Spike Added |        | Conc. Recovered | LCS %Rec.     | %Rec. CL       | Qualifiers       |
| 2,4-D                     | 400.0       |        | 317.0           | 79            | 49-127         |                  |
| 2,4,5-T                   | 40.00       |        | 28.00           | 70            | 31-145         |                  |
| 2,4-DB                    | 400.0       |        | 351.0           | 88            | 48-132         |                  |

RPD: Relative Percent Difference. CL: Control Limits



Calscience

## Sample Analysis Summary Report

Polk County Public Works  
Y6318-012-17

23

Work Order: 17-08-2176

Page 1 of 1

| <u>Method</u> | <u>Extraction</u> | <u>Chemist ID</u> | <u>Instrument</u> | <u>Analytical Location</u> |
|---------------|-------------------|-------------------|-------------------|----------------------------|
| EPA 8151A     | EPA 8151A         | 944               | GC 40             | 1                          |

  
Return to Contents

Location 1: 7440 Lincoln Way, Garden Grove, CA 92841



Calscience

## Glossary of Terms and Qualifiers

Polk County Public Works  
Y6318-012-17

134

Work Order: 17-08-2176

Page 1 of 1

| Qualifiers  | Definition   |
|---|--|
| *   | See applicable analysis comment.   |
| <   | Less than the indicated value.   |
| >   | Greater than the indicated value.  |
| 1   | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.   |
| 2   | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3   | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.  |
| 4   | The MS/MSD RPD was out of control due to suspected matrix interference.  |
| 5   | The PDS/PDSR or PES/PESR associated with this batch of samples was out of control due to suspected matrix interference.  |
| 6   | Surrogate recovery below the acceptance limit.   |
| 7   | Surrogate recovery above the acceptance limit.   |
| B   | Analyte was present in the associated method blank.  |
| BU  | Sample analyzed after holding time expired.  |
| BV  | Sample received after holding time expired.  |
| CI  | See case narrative.  |
| E   | Concentration exceeds the calibration range.   |
| ET  | Sample was extracted past end of recommended max. holding time.  |
| HD  | The chromatographic pattern was inconsistent with the profile of the reference fuel standard.  |
| HDH   | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).   |
| HDL   | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).   |
| J   | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.  |
| JA  | Analyte positively identified but quantitation is an estimate.   |
| ME  | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).   |
| ND  | Parameter not detected at the indicated reporting limit.   |
| Q   | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.  |
| SG  | The sample extract was subjected to Silica Gel treatment prior to analysis.  |
| X   | % Recovery and/or RPD out-of-range.  |
| Z   | Analyte presence was not confirmed by second column or GC/MS analysis.   |
| Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.   |  |
| Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time. |  |
| A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.   |  |

Return to Contents

SUBCONTRACT ORDER

Apex Laboratories

A7H0678

17-08-2176

135

SENDING LABORATORY:

Apex Laboratories  
12232 S.W. Garden Place  
Tigard, OR 97223  
Phone: (503) 718-2323  
Fax: (503) 718-0333  
Project Manager: Darwin Thomas

RECEIVING LABORATORY:


Eurofins\_CalScience  
7440 Lincoln Way  
Garden Grove, CA 92841-1427  
Phone : (714) 895-5494  
Fax: (714) 894-7501  
Polk County Public Works  
Y6318-012-17

Sample Name: SS-4      Soil      Sampled: 08/23/17 11:00      (A7H0678-04)


| Analysis  | Due                                 | Expires        | Comments |
|---|-------------------------------------|----------------|----------|
| 8151A Herbicides (SUB) +DW<br>Containers Supplied:<br>(B)4 oz Glass Jar | <del>08/28/17</del> 17:00<br>9/7/17 | 09/06/17 11:00 |          |

Standard TAT  
\*please run dry weight w/ analysis\*

Return to Contents

Released By  Date 8/25/17  
Fed Ex (Shipper)

Fed Ex (Shipper)

Received By  Date 8/26/17 0930  
Received By      Date

2176

136

Polk County Public Works  
Y6318-012-17

ORIGIN ID: BNOA (503) 718-2323  
SAMPLE CONTROL  
APEX LABS  
12232 SW GARDEN PLACE

SHIP DATE: 25AUG17  
ACTWGT: 25.00 LB  
CAD: 4716258/INET3920

TIGARD, OR 97223  
UNITED STATES US

BILL SENDER

TO DANIELLE GONSMAN  
CALSCIENCE  
7440 LINCOLN WAY

GARDEN GROVE CA 92841

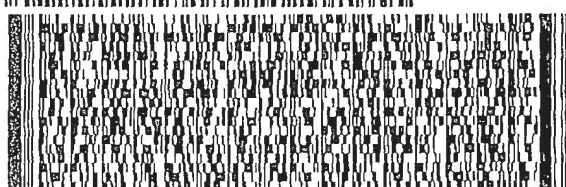
(714) 895-5494

REF:

INV:

PO:

DEPT:



FedEx Express



217211423107

SATURDAY 9:30A  
FIRST OVERNIGHT

TRK# 7701 1808 6050  
0201

W0 APVA

92841  
CA-US SNA



FedEx Ship Manager - Print Your Label(s)

8/25/2017

Return to Contents

## SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: APEX

DATE: 08 / 26 / 2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): 2.2°C (w/ CF): 2.4°C; ☒ Blank ☐ Sample☐ Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling☐ Sample(s) received at ambient temperature; placed on ice for transport by courierAmbient Temperature: ☐ Air ☐ FilterChecked by: SRPolk County Public Works  
Y6318-012-17

## CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/AChecked by: SRSample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/AChecked by: SR

## SAMPLE CONDITION:

Yes No N/A

Chain-of-Custody (COC) document(s) received with samples ..... ☒ ☐ ☐COC document(s) received complete ..... ☒ ☐ ☐☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished timeSampler's name indicated on COC ..... ☐ ☐ ☒Sample container label(s) consistent with COC ..... ☒ ☐ ☐Sample container(s) intact and in good condition ..... ☒ ☐ ☐Proper containers for analyses requested ..... ☒ ☐ ☐Sufficient volume/mass for analyses requested ..... ☒ ☐ ☐Samples received within holding time ..... ☒ ☐ ☐

Aqueous samples for certain analyses received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen ..... ☐ ☐ ☒Proper preservation chemical(s) noted on COC and/or sample container ..... ☐ ☐ ☒

Unpreserved aqueous sample(s) received for certain analyses

☐ Volatile Organics ☐ Total Metals ☐ Dissolved MetalsContainer(s) for certain analysis free of headspace ..... ☐ ☐ ☒☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)Tedlar™ bag(s) free of condensation ..... ☐ ☐ ☒

## CONTAINER TYPE:

(Trip Blank Lot Number: \_\_\_\_\_)

Aqueous: ☐ VOA ☐ VOA<sub>h</sub> ☐ VOA<sub>na2</sub> ☐ 100PJ ☐ 100PJ<sub>na2</sub> ☐ 125AGB ☐ 125AGB<sub>h</sub> ☐ 125AGB<sub>p</sub> ☐ 125PB☐ 125PB<sub>znna</sub> ☐ 250AGB ☐ 250CGB ☐ 250CGB<sub>s</sub> ☐ 250PB ☐ 250PB<sub>n</sub> ☐ 500AGB ☐ 500AGJ ☐ 500AGJ<sub>s</sub>☐ 500PB ☐ 1AGB ☐ 1AGB<sub>na2</sub> ☐ 1AGB<sub>s</sub> ☐ 1PB ☐ 1PB<sub>na</sub> ☐ \_\_\_\_\_ ☐ \_\_\_\_\_ ☐ \_\_\_\_\_Solid: ☒ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (\_\_\_\_\_) ☐ EnCores® (\_\_\_\_\_) ☐ TerraCores® (\_\_\_\_\_) ☐ \_\_\_\_\_Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ \_\_\_\_\_ Other Matrix (\_\_\_\_\_) ☐ \_\_\_\_\_ ☐ \_\_\_\_\_

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: SRs = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, x = Na<sub>2</sub>SO<sub>3</sub>+NaHSO<sub>4</sub>.H<sub>2</sub>O, znna = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOHReviewed by: 778

Return to Contents

138

Paris green

Phthalate

Polk County Public Works  
Y6318-012-17

Chromated copper arsenate

- how plugged - unknown
- container none ID'd